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THE VICTORIAN

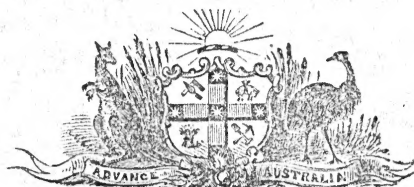
Ed. V. Brown

Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY SIR HENRY BARKLY, K.C.B., AND THE AGRICULTURAL AND
HORTICULTURAL SOCIETIES OF GEELONG AND MELBOURNE.

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"FAMAM EXTENDERE FACTIS."—*Virgil*.  
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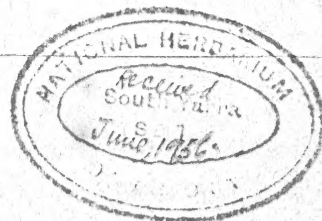
VOLUME THE FIFTH. 1861.



Geelong :

HEATH & CORDELL, PRINTERS AND PUBLISHERS, 18, MALOP STREET.

M.DCCC.LXI.



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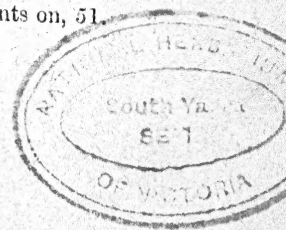
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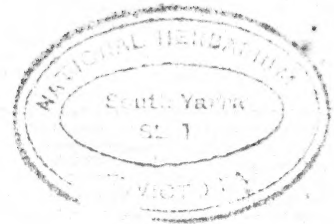
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THE VICTORIAN

Agricultural & Horticultural

GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 1.

JANUARY 19, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

FARMING OPERATIONS.

It is with regret we have noticed that in a great number of farms little or no provision had been made for the proper securing of the Crops when stacked. Many farmers labour under the idea that no rain will fall at this time of the year to hurt their Crops, and consequently delay thatching them until they have got other business of less importance disposed of. This is a most dangerous practice, and instead of continuing to do so, the farmer should, immediately after he has got his grain threshed, stack up as much straw in bundles ready for the purpose, as will thatch all his next year's Crop. Everything should be prepared for securing the grain before it is cut. Nor is rain the only danger to be feared. In a country like this where extensive burnings of the natural grass are constantly occurring at this season, every means must be used to secure the stacks if not the stubbles, from the chance of being ignited by them. This will be best and most safely accomplished by ploughing up the land to a width of two roods at some short distance from the stack-yard.

The practice of burning stubble is one that we soon hope to number among the follies of the past, for except in some rare instances this custom neither benefits the land, nor the farmer. Why stubbles are cut long is beyond our comprehension, because the straw can always be turned to more valuable account in the Stack-yard than when left on the field. No stubbles should be left longer than will allow of them being thoroughly covered by the sod at the first ploughing; by this means they will speedily rot, and will return a small amount of the strength of the land that the crop has drained it of.

The season has been particularly favourable in most localities for early ploughing; and we

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Colac Agricultural Society.

THE Adjourned General Meeting of this Society will be held at the Old Court House, Colac, on
FRIDAY, 1st FEBRUARY, 1861,
At 12 o'clock noon,

To Elect the Committee for the ensuing year, and to transact other general business.

J. MISKIN,
Secretary.

Colac, 12th Jan., 1861.

Villiers and Heytesbury Agricultural Association.

A PRIZE of Thirty Pounds (£30) will be awarded to the owner of the Reaping Machine that may be most successfully worked in this district during the coming Harvest, up to the 10th February next, or sooner if necessary.

THOMAS RAINGILL,
Secretary.

Warrnambool, Dec. 4, 1860.

Horticultural Improvement Association.

THE FIRST MONTHLY MEETING will be held at the Mechanic's Institute, on WEDNESDAY, the 23rd instant, at 7 o'clock p.m.

Members are requested to Exhibit such Plants or Fruits as are likely to be of interest to the Society.
Intending Members are invited to attend.

S. HANNAFORD,
Secretary.

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James Murdock, 288, Brunswick-street, Collingwood.

— Wood, Seedsman, next Toorak Hotel.

Charles Stone, Central Brighton.

— Moss, near Red Lion, Hawthorn.

J. George, Dispensary, Brunswick.

Davison, McDonald & Co., Ryrie-street, Geelong.

David Teeson, Moonee Ponds.

H. G. Powell, Seedsman, High-street, Kyneton.

G. W. Glass & Co., Seedsman, Market-street, Castlemaine.

George Dunbar, Seedsman, Dandenong Hotel, Dandenong.

— McDonald, Storekeeper, Melton.

are sorry to notice that on many farms the second crop is being allowed to grow for cattle, instead of being at once ploughed under to rot, and strengthen the land. New and stiff Wheat land, should, if Wheat is to be sown again this year, receive at least two ploughings, one crossing the other. The advantage gained by early sowing, is almost incalculable, as many farmers have experienced it so this season. As to the disposal of their grain, we recommend our agricultural friends who have Wheat on hand, to thresh it out and send to market as quickly as possible; this must be understood to apply only to those who are not in a position to hold it for many months, as if the samples are good, a better price will be realised within the next month, than will probably be offered during the two or three succeeding ones. Besides this the farmer is relieved of all anxiety about the safety of his crop.

As soon as threshed, the straw should be just as carefully stacked as hay, it is nearly as valuable to the farmer as hay itself, for mixed with green stuff of any kind and cut into chaff, it will afford an excellent food for working or dairy cattle.

The Sugar Cane, Maize, and Mangold, and Beet crops, as well as the Potatoes, must demand a reasonable portion of the Farmer's time and attention. The hoe must be kept at work to keep down the weeds. The first crop of the Canes should have been fit for cutting at the beginning of the month; and in taking them they should be cut slantingly and sharply. The outer leaves of Mangold and Beet should be pulled for cows and pigs. The main crop of Turnips may be sown any time this month.

TRUTH is always consistent with itself, and needs nothing to help it out. It is always near at hand, and it is upon your lips, and is ready to drop out before we are aware; whereas, a lie is troublesome, and sets a man's inventions upon the rack, and one needs a great many more to make it good.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

THE views of any Contributor of known integrity and intelligence, upon subjects of public importance, will always find a place in the "Gazette," if space permit, and they are free from intemperate language and personalities.

WELLINGTONIA GIGENTIA. (Robus, St. Kilda).—This is a native of California, and was discovered by William Lobb, that is to say, it was introduced to England by him. It may be had in this colony, but we are aware that a tree said to be the Wellingtonia is sold for it, and you should be careful to secure the proper one by going to a respectable nurseryman, who if he has it not will get it for you. We cannot, except in very special cases, recommend tradesmen. If you consult the advertisements in our columns, you will obtain the information you require.

FLAX. (Enquirer).—To facilitate the separation of the fibre from the bark, it must be bleached or steeped in soft water, to induce decay or putrefaction. The period that it ought to remain in the water depends on circumstances; for instance, as to the period of ripeness at which it has been pulled, and the quality and temperature of the water. In moderately warm weather ten days is about long enough, but it ought to be examined frequently before that, to see that the Flax does not putrify and rot. We believe you can get some information at the Experimental Farm. We have no doubt the Director will be glad to give you any information.

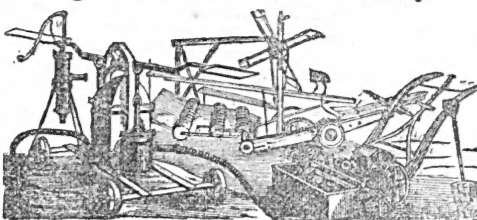
FATTENING CATTLE. (M. B., Grange).—We cannot publish your letter. Those who hold an opposite opinion to you, viz., that the Durham or Short-horn is the kind of breed for the majority of the stations of this country, no doubt hold that opinion as conscientiously as you do yours, and there is no need to descend to personal abuse of men, who are no doubt as anxious to benefit the country as well as themselves, as you are. We will always be glad to hear from you, but pray write in a different strain.

ONES AND GUANO. (Young Farmer).—Both are good. If we intended to manure a vineyard, we would use Bones. If we intended to immediately benefit a root crop or grass crop, we would use Guano. The latter is more quickly assimilated by plants than the former. We have heard many farmers speak highly of the value of the Guano of this colony; you should have tried it on a growing crop.

TO OUR READERS.

It is with some little feeling of pride that with the present number, we commence the *Fifth* Volume of the "Gazette," and the more so that in our progress we have contended with, and surmounted innumerable difficulties, combated numerous oppositions, and maintained our position in spite of the apathy displayed by the very class who should be the most willing to aid us. That a paper, such as the "Gazette," is needed, is amply proved, not only by the establishment of a new Journal in this Colony, but by the fact that Tasmania and South Australia now can boast of ably conducted journals, well supplied with sound practical information. The Agriculturists and Horticulturists of South Australia set a good example to those of Victoria, since in the "Farm and Garden" matters connected with their respective professions, are discussed, and every one appears willing to lend his mite to the general fund of information. This is the true way to success, and we hope many of our readers and subscribers will take the hint for the future.

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GUANO!

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But we must forget the shortcomings of the past, and with a heart brimful of hope, wish our readers, one and all

A HAPPY NEW YEAR!

There is something especially cheering in the incoming of a New Year in this country, where as now instead of Winter "old, and cold, and froze," we have everywhere around us, fields of ripening grain, vineyards with pendent bunches of luscious grapes, Orchards with trees bowed down with fruit, and our domestic gardens redolent with the fragrance of the mignonette and roseblossoms, and profusely gaudy with flowering plants and shrubs. Never did a season promise more fairly!

But cheering though the prospect be, let our friends bear in mind that with an abundant yield must come a reduction in prices, and economy must be the order of the day. Every shoulder should be put to the wheel to make ends meet; the wives of our farmers, instead of spending thoughtlessly the hardly-earned stock, must bestir themselves and look to their bacon and eggs, and butter and poultry; the wives of our Market Gardeners may train up their children, and make them all useful in the garden. It is only by striving thus, that a living can be made henceforward.

Much time and money is year after year wasted by our Agricultural friends, in coming, day after day, for weeks together, into town, to obtain a few pence per bushel more for their produce; let them be content with a fair current price, and remember that the gain in one way is far more than counterbalanced by the loss of time, which they might spend profitably at their homesteads.

In the present volume, we hope to treat on many subjects which have been hitherto untouched. Floriculture will form a prominent feature in our pages, and we shall make many suggestions from time to time, which will we trust be of use to our readers, and render the "Gazette," not only interesting and welcome as a Periodical, but also valuable as a book of reference.

TRAITS OF MORAL COURAGE IN EVERY DAY LIFE.—Have the courage to discharge a debt while you have got the money in your pocket. Have the courage to do without that which you do not need, however much you may admire it. Have the courage to speak your mind when it is necessary that you should do so, and to hold your tongue when it is better that you should be silent.

PLEURO-PNEUMONIA.

It is with no ordinary regret we learn that this terrible disease has not only broken out among our cattle here, but that there is every reason to believe it is spreading its seeds far and wide. From the herd of Mr. Boadle, where it first appeared in this colony, it has spread to three or four others, and it is impossible to say to what extent it may carry off cattle, before it has run its course.

There can be little doubt that it is the same lung disease which first made its appearance in Holland many years ago, and which subsequently devastated the herds of France, Sweden, and other European countries, besides, at a later period, those of some of the United States of America. In the latter country its attacks were so general and so malignant, that the Legislature had to interfere, and they endeavoured to arrest its progress and check the terrible mortality occasioned by it, by introducing legal enactments for the destruction of infected herds. It is more than probable some such step will be resorted to here at once, as Mr. Mollison has given notice that he is prepared with a Bill to meet the emergency, not very dissimilar to that of Massachusetts in America.

It is not our business to enter very fully into the merits and demerits of Mr. Mollison's Bill, nor to debate the nature and characteristics of this fatal epidemic; our duty lies more in endeavouring to rouse the agriculturists and cattle breeders to a sense of the danger impending over them, and to persuade them by every means in their power, to exert themselves to arrest the progress of this dire malady. It is a national calamity, in which one and all are interested, and in which there should be no selfishness exhibited. Owners of cattle must work with unanimity and with confidence in each other. All information must be rapidly circulated, and candidly and openly given; there must be nothing like concealment or mistrust.

The Government did act with something like praiseworthy alacrity when first the disease was known to have broken out, by appointing Commissioners to arrange for the purchase and destruction of diseased herds; but the greed of some of the owners of such beasts, and the small-

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See Catalogue.

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At £5 15s. per Ton.

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BALLAARAT.

WE have much pleasure in intimating that MR. WILLIAM ELLIOTT, of the CRESWICK ROAD NURSERY, has become a Partner in the Nursery Business, and will take the active management of that department; and his well-selected Stock of Plants having been added to our own, we can now offer for Sale an Assortment unrivalled in the interior of the Colony.

The Elegant Greenhouse on the Main Road is now filled with beautiful Plants for Sale; and no exertion will be spared to keep up a supply of

Fruit Trees, Shrubs, and Ornamental Plants,
suited to the wants of this rapidly improving district.

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N.B.—Conveyances and Leases effected; also, sums of money to lend on real property, from £100 to £1000.

ness of the funds placed at the disposal of the Commissioners, have rather cramped their exertions; and nothing more is likely to be done now until the sanction of Parliament is given to Mr. Mollison's Bill. There can be no question as to the infectious character of the disease; but we are of opinion that much may be done among our breeders to improve the condition of their stock, and to invigorate constitutions debilitated and weakened, by the most careless management. It is not at all improbable that all animals are not alike liable to take, or to receive the infection; or it may be that a good sound vigorous constitution, would, even if affected, throw off the malady with very little inconvenience; and we are strongly impressed with the opinion expressed in other quarters, that a long course of mismanagement, and a continued inattention to the fundamental rules of breeding have weakened the constitutions of a large majority of our horned cattle, and have predisposed them for the attacks of all such malignant diseases, and that such an injurious system should be at once abolished if possible.

The disease has hitherto apparently defied the skill of the veterinarians, and of the host of medical men who have devoted their attention to it; and although in some few cases the application of remedies has been supposed to have effected some good, the general conclusion drawn is, that the disease is an incurable one. In order to arrest its progress, inoculation, by means of a piece of the diseased lung, has been tried, and from all accounts, apparently with considerable success. The report of the Ohio Commissioners is very favourable indeed to the introduction of a system of inoculation; and if the evidence referred to in that report is reliable, it seems certain that a very large percentage of cattle has been saved in Africa, Austria, and in Belgium, and other places by inoculation. The only person apparently who ridicules the idea of inoculation being beneficial, is Professor Simonds; but he appears not to have had sufficient experience to warrant us in trusting too implicitly to his opinion.

One thing we would in the most earnest manner impress upon our agricultural friends, that is, to give immediate publicity to the appearance of the disease among the cattle, and to prevent any intercourse

between them and the cattle of their neighbours. If some provision of the kind be not made in the Bill about to be introduced, it should be added to it without delay. We also think every owner of cattle should be compelled to forward his brands to some officer appointed to keep a record of the same. The greater caution is required with this disease from the fact that it is supposed to linger in the system for weeks and months before any outward signs of ailment betray its presence among the animals.

In recommending the owners of cattle to exercise all due caution, and to be vigilant in examining the state of their beasts, it will be necessary that we shall offer them such hints as may lead them to detect the presence of this new scourge to the Colony, for we presume but few people here are as yet acquainted with its characteristic features.

In general, cattle before being seriously attacked, draw off from their companions, and seek the shade of a tree, a wall, or a house; their coat begins to stare; the eyes look inflamed, watery, and dim, with sometimes a swelling of the eyelids. The back is put up, and a heavy quick heaving of the flank may be detected, with an occasional cough, but the cough does not invariably accompany the first symptoms of the disease. In Milch Cows the sudden and extraordinary diminution in the supply of milk is a marked feature in the first appearance of the disease among them. How far the disease may be influenced in the first instance by a sudden change of weather, or by exposure to extreme cold, we are not prepared to say; but we think that much more care and attention ought to be paid to their Stock by our breeders and others, than has been the case hitherto. At all events we must conclude by reiterating our hope that all cattle owners will keep a sharp look out upon their Stock, and without a moment's delay communicate the appearance of any disease to the proper authorities—the Commissioners.

THE GRUB.—The "Warrnambool Examiner" speaks of the prevalence of the Grub in that district. Several of the fences enclosing the farms are covered with the grubs to the extent of several inches, and in many instances the road appears like a black moving mass of grubs crossing from one farm to another. The destruction of grain, the Editor concludes, must be large, and he mentions having heard of several cases where wheat crops are not worth cutting down. [5th January, 1861.]

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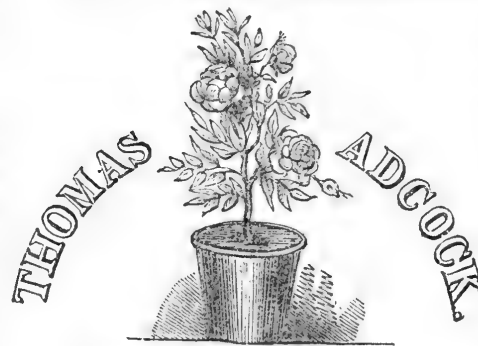
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THE HORTICULTURAL IMPROVEMENT ASSOCIATION.

We had purposed deferring any notice of this newly organised Society until its proceedings and general working had come prominently before us, but the mention by a daily contemporary that its formation is likely to prove detrimental to the Horticultural Society, at present in existence in Geelong, induces us to make a few remarks on the subject.

The Society lately established, is stated to have for its objects the assembling together of its members at *short* intervals to exhibit new or rare plants in bloom, which the less frequent exhibitions of the Geelong and Western District Society would not embrace, the promulgation of information on the culture of plants or fruits, by *viva voce* remarks, or by Essays, and a general friendly intercourse amongst men interested in one common pursuit.

The Association, it was distinctly stated at the opening meeting, was not to be allowed to clash in any way with the older Society, nor are we inclined to think that it will do so. The encouragement of a taste for Horticulture, will give amateurs more courage than the bare tables at some of our exhibitions would lead us to believe they possessed; they will learn how to distinguish good plants from bad, and thus we look forward to a vast improvement, and a large increase in the number of exhibits at the forthcoming exhibitions of the Geelong and Western District Society.

The Horticultural Improvement Association has started well,—that it was a want, is proved by the admission of 40 practical men on the opening night, and with the carefully selected committee and officers, whose names are a guarantee that it will not be allowed to flag, we augur for it a decided success. We trust the croakings to which we have above alluded, may, like the chickens, "go home to roost."

SEASONABLE HINTS.

At the beginning of a new year it may be seasonable to remind Gardeners and others of the advantages to be derived in carrying out their varied operations from year to year, by keeping a record or kind of diary of their experiments, whether of great or small extent, of the dates of sowing various seeds, dates of their coming to maturity, difference of seasons and their effects on trees, vegetables or flowers, and so forth. The trouble involved in attending to this is very

slight when once it is fairly set a going, and it is astonishing what great advantage it is to any one to have such records to refer to. He would be a poor gardener in England, to take charge of some of the extensive establishments in that unrivalled gardening country, who had not his brain stored with facts, figures, and dates, connected with his profession; but even with their brains stored as it were with events and circumstances which guide them in their operations, the leading gardeners there have recourse to the plan we recommend, and we especially recommend it to those whose occupations only allow them a few stolen hours from time to time to devote to what may be a pleasure of their life, viz., their garden. But gardeners, aye, and farmers too would do well to give a little more attention to this recording of experience, and the consequence will be increased surety in the success of what they do. We remember being laughed at, some ten or eleven years since, because we asked at Christmas time for some green peas for dinner, green peas, indeed, "we might as well have asked for ripe melons!" And now he would be rather behind the age, as a gardener, who could not produce, either for our table at the period of the year named, and, moreover, peas would be no rarity, the whole of the year round. Of course, this has been secured by careful observance of the periods of sowing and the varieties sown, and the periods of sowing and the varieties sown, and so forth, and a mutual interchange of ideas and experience amongst those engaged in the production of the bounties of the earth. The time is fast approaching when the Australian Gardeners, generally, will be required to produce their vegetables and fruits at seasons out of the regular course, and to do this, they have not more difficulties or greater vicissitudes of climate to contend with, than their brethren at home. We are glad to observe that Mutual Improvement Societies are springing up in and around the principal towns, where Gardeners can meet each other and compare notes; these are signs of progress, and will indirectly influence the operations of the Gardener. Then each to keep pace with his fellow must note and observe, and we again commend the plan suggested above, to ensure success. Besides, we hope to see Gardeners taking a leading part in the development of the resources of the country, and communicating their knowledge to others through the press, on the various capabilities of the colony in the production of raw material for many of the important manufacturers of the present time, and we would urge them to take example of many of their class at home, who have done important service to agriculture and horticulture, by cultivating the power to impart, through the means of the press, instruction to others working in the same field of experience.

Culture of Geraniums in Pots.

THOSE who have at any time seen those magnificent banks of this most beautiful of flowers at any of the London Exhibitions, are instinctively led to compare the exhibits of the Australian Gardener in this class, with what they have then seen, and of course the comparison is a very unfavourable one for the Australian Florist. We have not observed at any of the exhibitions in the Colonies that Geraniums or Pelargoniums, as they are known most particularly by florists, have been exhibited in any thing like that state of glowing splendour

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which they are quite as capable of being made to produce here, as at home. We have no doubt the time will shortly come when we shall have them exhibited in pots of a medium size, in something like the dimensions now so common at home, and covered with their lovely blossoms in all the varied brilliancy of colour which charms the eye, and instructs the taste, in abundant profusion. We know that from the old dame's favourite plant in the broken teapot in the window, to the carefully nurtured plants in the conservatories of the rich man, this tribe of flora's gems are greatly prized, and we purpose to say a few words on their culture to help the uninitiated in their efforts to grow good specimen plants.

And to begin at the beginning, cuttings of short jointed tolerably hard wood, that is young wood, should be taken, and when prepared they should not be more than from six to eight inches in length, having in that space several eyes or buds at distances not above an inch apart. It is necessary that this should be carefully observed in striking cuttings, as long jointed weakly wood is not the kind to lay a good foundation for future success. The cuttings should be inserted in a light sandy soil in pots to the depth of about an inch, and should be placed under a hand-glass in the open air, to be shaded from the sun. They will strike very well in the open air, but a hand or bell glass facilitates shading, and protects them if necessary from too much wet. They will not require much water for a time, merely keeping the soil moist will do until they are struck. When the plants are well rooted, which may be seen by their making robust growth, and short stiff foliage, they must be potted into pots singly, say four-inch pots, in a rather rich soil composed of turfy loam, well rotted cow dung, two year old, and sharp silver sand, unimpregnated with any saline property, as much of the sand in this Colony is, and the pots should be well drained by having broken potsherds placed in the bottom, and over this a little of the roughest of the compost. Stagnated water is most injurious to a healthy development of the roots of the Geranium; and here where plants in pots require to be watered so frequently, perfect drainage is one of the most important adjuncts to success. When the plants are potted they should be placed in a cold frame, or pit, and kept a little close till they began to root into the new material in which they are potted; the sashes might, however, be withdrawn on mild dewy nights. As soon as they are properly rooted they should be removed to the open air and placed on boards. Some temporary protection from the very fierce rays of the sun being provided, but not so as to impede the most ample circulation of air. They must be carefully tended with water, and should be sprinkled or syringed frequently to keep them growing. It is a good plan to plunge the pots in summer. When they are thoroughly established and growing vigorously, they will require to be shifted into a larger size pot. This time the soil having mixed amongst it in addition to the cowdung, some small pieces of Charcoal to secure good drainage. Towards winter the plants will have to be removed to some protection from the winter's rains, but if placed under glass, they must be placed near to it, and must have abundance of fresh air to keep them short-jointed and robust. In fact they only require protection from

heavy rains. Early in spring they will require to be shifted into a larger sized pot, and the lateral shoots should be stopped at the fourth joint, and tied down horizontally to the rim of the pot. They should now be kept growing, and the new laterals may require to be stopped at the fourth joint, and thus the foundation of a first rate specimen plant will be secured. They should now be left to flower, and when the flower buds make their appearance, the plants may have liquid manure once or twice a week till they are done flowering. The period of flowering may be varied by stopping the laterals at different times, and indeed for obtaining very large specimen plants for the second year, some of the plants may be kept from flowering altogether.

When the plants are done flowering, they should be gradually ripened off by being kept rather dry, and should then be cut down,—that is, all the long flowering shoots should be cut back to within an eye of the old wood. They will then produce numerous young shoots, and as soon as these are an inch or so long, the plants should be shook out of the pots in which they have been growing, the roots considerably cut in, and repotted in smaller sized pots, in fresh compost. The training and regulating of the young wood must then be attended to. The plants should be kept a little close for a few days, and carefully tended with water till they have recovered from this shift. They should then be removed to their winter quarters, to be always kept in plenty of light and air. Early in Spring they will require to be potted into their flowering pots, and should be carefully trained out by being tied down to the rim of the pot, and to a few stakes placed around for the purpose. We however do not like to see a forest of stakes, as the plants should be of such a short jointed robust nature as not to require much tying. Some of them may be potted a second time to keep them growing a little longer than the others, and thereby be induced to flower later. The young shoots of the first lot should only be stopped once, a later lot may be stopped twice, and to vary the period of flowering, some plants should be cut down at intervals of a month or so when they have done flowering. When the flower buds make their appearance, the plants may have liquid manure water now and then, but should not have it before; and as the green fly appears on them it must be removed by smoking with tobacco smoke, the plants being placed in a close place where smoke would not escape for a time; and they must be frequently syringed, though not in dull damp weather or when the sun is on them. If these directions be attended to, good plants will result, and not those long-legged fellows with about a dozen flowers on them that we so often see, but short-jointed healthy foliaged plants with flowers by the thousand.

For the information of our Amateur Readers, we give the leading properties of the geranium as laid down by Mr. George Glenny, acknowledged to be the best judge of Florist's flowers in England:—

1. The petals should be thick, broad, blunt, and smooth at the edges, and slightly cupped.
2. The flower should be circular, higher at the edges than in the centre (so as to form rather a hollow, though by no means a deeply cupped

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bloom), without puckering or frilling; and where the petals lap over each other, the indentation caused by the join should be hardly perceptible.

3. The petals should lie close on each other, so as to appear a whole flower rather than a five petalled flower.

4. The stem should be straight, strong, elastic, carrying the blooms well above the foliage. The footstalks of the individual flowers should be stiff, and of sufficient length to allow the flowers to show themselves in an even head, fitting compactly edge to edge, and forming a uniform bold truss.

5. The colour should be bright and dense, whether it be scarlet, crimson, rose colour, purple, lilac, or any of the modifications, the spots on the upper petals should be boldly contrasted with the ground, and the darker the better: both upper petals should be alike, both side petals alike, and the lower petal uniform.

6. All white grounds should be very pure; and the colours, no matter what they be, on the white, should be decided, well defined, and by no means flush into the white.

7. The spots on the upper petals, or the marks in any other, should not break through to the edge.

8. Colours being a matter of taste do not affect the real properties so much as other points, unless it be on the score of novelty; on this ground a bright scarlet would be desirable, and a black spot. We have plenty of approaches to both, but none very near.

9. The plant should be shrubby in its habit, the foliage close, and of a rich bright green, the joints short and strong, able to support themselves in every part without assistance. The flower should be large, not less than five in a truss, and come at the end of every shoot.

Spring Rose of Shanghai.

THIS Rose which was amongst others sent from China to the Horticultural Society, (England,) by Mr. Fortune, having been neglected for a time, appears now to be gaining some little notoriety. Its flowers are white, tinged with pink on the outside, sweet scented, and grow in endless profusion in small clusters. Mr. Fortune states that it is cultivated in gardens about Ningpo and Shanghai, and is held in high esteem by the Chinese, and he considers it one of the best kinds which he has met with in China. It is frequently seen of a large size covering trellis work, formed into alcoves, or built over garden walks. For this purpose, it is well suited, as it is a luxuriant grower, and it blooms profusely and early.

Mr. Rogers, of River Hill, near Seven Oaks, a skilful amateur Gardener, speaks of it as a "very fine and remarkable climbing Rose, growing 10 to 12 feet in a season, flowering earlier than any other I know, and continuing longer in bloom. It is both good in form and sweet-scented, and a profuse grower, flowering both in clusters at the ends, and all along its shoots, thus partaking both of the habit of a Noisette, and of a Hybrid China. It is perfectly hardy."

From the "Gardeners' Chronicle," (July, 1860,) we learn that "it seems to be a mule between the common China and *Rosa multiflora*, but whether the result of one intermixture, or some third or fourth cross, is probably as unknown to the Chinese as it is to us. The fringed Stipules reveal its relation to *R. multiflora*, as its scent, and the peculiar gloss and texture of its leaves disclose its kindred with *R. indica*."

Botanical Gardens.

GEELONG.

It is now some months since we paid a critical visit to these Gardens, but taking advantage of some of the recent holidays to spend a few hours in quiet there, we were enabled to note the remarkable progress which has been made. We have frequently described the grounds in our columns, so will only notice now what we deem most deserving of it. The Wattles, which are planted several rows deep all round the Gardens, are growing well, and besides being ornamental, serve as a capital break to the bleak sea breezes, and so expeditiously have the walks been laid out, that there is now a delightful carriage drive through the entire circuit of the grounds, some two miles in extent; the young trees are getting strength, and will in a short time afford a pleasant shade, and somewhat relieve the monotony of the white walks, a rustic summer-house has been erected, and many more are in preparation, round which will be twined some of our most beautiful native creepers.

We now enter the Nursery, which is about five acres in extent, pausing a while at the gate to admire the handsome *Lagenaria Patersonii*, a Malvaceous plant from Moreton Bay, which alone would repay a visit to the Gardens. We are astonished to find that where only three years since nothing but a few pegs and tallies were to be seen, there are now beautiful avenues (in miniature as yet it is true), of Poplars, Limes, Elms, Horse Chesnuts, and Oaks, all thriving as well as in their native English woods. Then the rows of Phloxes dazzle one with the brilliancy of their tints; and as for Fuschias, Roses, and Verbenas, they are in profusion. The thick border of Scarlet Verbena, on the hilly side of the Nursery, is in excellent taste.

Strolling along the walks, there are many noticeable things, as the *Jasminum pubigerum*, the very handsome *Tacksonia mollissima*, with red flowers similar to the Passion Flower, to which it is allied; the blue *Veronica perfoliata*, from Mount Alexander, an inhabitant of auriferous districts; Dr. Mueller's most interesting *Grevesia cleisocalyx*, which was discovered by Mr. Bunce in Eastern Tropical Australia, during Dr. Leichardt's exploring expedition; it is only a small plant truly, but it is remarkable for concealing with its large connate sepals, the little corolla which does not see daylight until shrivelled up after fecundation, when the calyx unfolds to eject the ripe seeds. There is also a pretty new *Kennedya* near this, the Irish heath (*Menziesia polifolia*), the elegant shrubby snowy flowering *Prostanthera*, *Duranta superba*, and the Moreton Bay Cotton; whilst most tastefully grouped in a long avenue, are bushes of the splendid scarlet *Ipomopsis elegans*. The only Desert Pca in flower, is, we are glad to see, carefully protected, that which attracted so much attention, and formed so interesting a feature here for so long a time, having been most wantonly and maliciously destroyed. We think a reward for the detection of the offenders, made conspicuous in the Gardens and Shrubbery might deter these petty thieves.

A very fine collection of Pansies, carefully protected, gives promise of great things by and by; and a large flowering *Datura*, the squirting Cucumber, and the American parsley-leaved Blackberry, are all things to notice.

The Green-house is far too small, and consequently the plants are crowded. The large Convolvulaceous flowers of the *Ipomœa Learii* twine gracefully over the roof, and creep through any aperture they can find, flourishing equally well in the open air, and intermingled with it, the richly colored flowers of our native *Lophospermum*. The *Achimenes* here are really beautiful, and some few *Gloxinias* equally deserving attention. Of the host of flowering plants, we more particularly noted *Cantua pyrifolia*, some very interesting species of *Statice*, *Bryophyllum calycinum*, *Anchusa Chathamia*, our old English moneywort too (*Lysimachia nummularia*), the House Leek, the little Ivy-leaved toad Flax which mantles the walls of the old Castles and Churches, and a profusion of lovely things on all sides, which we cannot find room to mention.

To residents in Geelong, these Gardens afford a most delightful place for recreation, the casual visitor may while away an hour or so most agreeably, whilst the Student will find forms as various as they are interesting, for his enlightenment; and, by and bye, when a little more shelter is afforded by the promised summer-houses, we hope to "possess ourselves in much quietness," and spend many a long day there.

HORTICULTURAL CHEMISTRY.

DOUBLE FLOWERS & THE NEW ZINNIAS.

M. Vilmorin, the eminent French Nurseryman, has recently achieved a great triumph in Floriculture, by producing double Zinnias, sporting as it is termed, into numerous shades of colour, and standing no mean comparison with China asters, and even (if we may trust the report) with Dahlias of superior sorts. I recollect well, about 40 years ago, when Mr. James Drummond (now Government Botanist at the Swan River) had the superintendence of the Botanic Garden at Cork, he had a large bed of Dahlias all single—though sporting into a variety of colours; but while they certainly looked gay, or rather gaudy, they would all be deemed worthless by a Dahlia fancier of the present day—so extraordinary has been the improvement in this magnificent and gorgeous flower. The Zinnia may in time make a similar advance.

The Zinnia has long been a favourite border annual, ranking with African Marigold and Caliopis; but with all its pretty metallic tints of colouring, I do not recollect to have observed it to sport colours, so as to entitle it to rank as a florist's flower; much less to have seen any tendency to doubling by additional frustral petals, such as may be frequently noticed in Caliopis and Calendula.

The question naturally arises, what causes, chemical or physical, produce those two effects so much prized by the florist? The subject, so far as I know, has never been scientifically investigated, though it certainly would open up interesting views of some of the recondite processes of vegetation. Most probably M. Vilmorin was indebted to accidental varieties

for his first stock, and to the well-known processes of hybridising for his subsequent sorts; but we are yet greatly in the dark with respect to the doubling of flowers, and still more, with respect to colours and the tendency to sport.

Minute chemical analyses of variously coloured petals might perhaps reveal some of the secrets we are anxious to learn; and where the most delicate processes of analysis might be at fault, histology might step in, and the improved microscope, in the hands of such men as Sleiden or the lamented Huxley, might detect what eluded the penetration of the chemist. Till such investigations, however, are undertaken and brought to successful results, we must rest contented with the facts already known, upon which, in the meanwhile, we may found experimental trials. Even guesses at truth, such as we find in that singular book on colours, by the great genius of Germany,—Goethe's "*Farbenlehre*"—might lead to some practical processes to cause florist's flowers to sport into colours.

For example, we know, that most red and many blue colours depend upon some of the salts of iron; and as the oxalate of iron is very pale—nearly white, watering with a dilute solution of oxalic acid, would most probably (I may say certainly) affect the colour of a flower. Chlorine, again, has a powerful effect in decolorizing, and hence it may be inferred, that watering or manuring judiciously with common salt (chloride of Sodium) or with bleaching powder (chlorinated lime) would whiten or render pale most floral colours. Blues, again, might be produced by means of ferrocyanate of potassium; while any of the alkaline salts, such as carbonate of soda or potash, would act in some way upon the shades of yellow and orange.

It occurs to me that doubling might be promoted, and sporting likewise, by collecting quantities of petals, allowing the mass to decay, and using it carefully as a manure for roots of the same species. I have tried this with partial success, and if I had had leisure and opportunities to follow it up, I am sanguine that the results would not have been worthless. In this way, near London, about 20 years ago, I produced two beautiful varieties of heartsease,—one a self—of a rich velvety metallic bronze brown, which I soon lost and have never seen matched; and another, of a delicate pearly white, beautifully vandyked round the whole rim with bright sky blue.

As the Zinnia thrives luxuriantly here, some in the Melbourne Botanic Garden having disks double the size of any I ever saw in the London nurseries, no time ought to be lost in procuring a collection from M. Vilmorin. Our single Zinnias here indeed are as much superior in size and beauty to the common English ones, as the China asters I saw in the flower market at Paris, were to the best I ever observed in the vicinity of London. J. R.

ECONOMY OF TIME.—Many people take no care of their money till they have come nearly to the end of it, and others do just the same with their time. Their best days they throw away, let them run like sand through their fingers, as long as they think they have an almost countless number of them to spend; but when they find their days flowing rapidly away, so that at last they have very few left, then they will at once make a very wise use of them; but unhappily they have by that time no notion how to do it.

Societies.

Horticultural Society of Victoria.

THROUGH some unaccountable error, the report of the December Exhibition of the Society, which was in type, did not appear in our last issue. As it has appeared in so many of our contemporary journals we will merely mention that it was a most creditable one, and we were pleased to notice, an improvement on that held some months since. Messrs. Smith and Adamson were, as they always are, conspicuous for a host of choice plants, amongst others, *clerodendron squamatum*, *Ixora coccinea*, *Allamanda verifolia*, and *Franciscea confertiflora*, and *uniflora*.

Mr. Rule had some splendid Conifers, and amongst his flowering plants *Rhopala arganensis*, *Eralia cranifolia*, *Berberis intermedia* and *arcata*, *Brexia Madagascariensis*; the new *Ancarcaria*, named after Mr. Rule. "Rulei," by Dr. Mueller, was an object of much interest. Dr. Mueller of course contributed largely,—many of his plants being particularly noticeable,—the new Victorian Elder, *Pittosporum flavum* (Moreton Bay), the new variety of *Swainsonia* (*queyana alba*), and a handsome spike of *Grevillea robusta*.

The tables were ornamented with choice plants and fruits, on many of which we had some notes, but reserve them now at this late period.

AT the Annual General Meeting of the Society, held on the 7th instant, the Committee reported that having found some difficulty in obtaining Members' subscriptions, they concluded that the benefits arising from Membership were not adequate inducements for joining the Society, and to remedy this, and to extend the effectiveness of the Society, it was determined to establish a Horticultural and Experimental Garden. A portion of the Richmond Survey Paddock was decided upon as a favorable site, and the Government have granted 25 acres for the purpose;—this land has to be fenced,—it therefore devolves upon the friends of Horticultural progress in Victoria to furnish the wherewith to make the Gardens beneficial and attractive, and a *quid pro quo* is held out to all those who come forward with their contributions.

When the Experimental Gardens are sufficiently established, the members, subscribers, and local Societies in all parts of the Colony, will be enabled to obtain plants, cuttings or seeds of the fruits, flowers, and vegetables, subject to the usual conditions of such Societies; and printed transactions containing instructions as to the system of culture successfully adopted for the improvement and propagation of the choicest Horticultural produce, will be circulated. By these means exact and reliable information, in respect to the various products of the Gardens, collected from different countries, will be disseminated, and the usefulness and profit of such plants as may prove to be adapted for successful culture, will be made known to all interested in the promotion of Horticulture, in all its phases of suitability to the climate and resources of the country.

The Government has given a grant in aid, of £300 conditionally, that £150 be raised by subscription, for fencing and improving the land; the Richmond Municipal Council has liberally laid aside £150, and the Boroondara District Road Board, £20, and several gentlemen have contributed freely.

Sir James F. Palmer was elected President, and Dr. Mueller and the Hon. T. H. Power, M.L.C., Vice-President for the ensuing year; and the Committee elected contains the names of some well-known practical and amateur Gardeners, so that with a fair amount of support from the public, we

may expect this Society will go a-head; it has had severe trials to contend with. Let us hope the "silver lining" is dawning on it now.

Geelong & Western District Agricultural and Horticultural Society.

THIS Society held an extra Exhibition yesterday of Fruit, Flowers, and Vegetables; but we regret to observe that on the whole, it was not of that class which would induce the Committee to have annual Exhibitions again at the same time of the year. Exhibitors did not come forward very numerous, nor did the Exhibition draw so great a number of visitors as might have been expected. The terrific storm of rain which occurred during the afternoon, no doubt militated against the attendance, but on the whole the Exhibition was but a partial success. One thing is certain that the ladies do not like the locale of the Show.

Our notes of the exhibits must be brief, both from want of time and space; and we shall only record a few of the leading exhibits that caught our eye, as we have no doubt a correct official list of prizes will be published.

Amongst plants, we are bound to notice first, Mr. Adcock's well grown collection of miscellaneous Plants, including several Conifers, a beautiful plant of *Asplenium Nitida*, *Nandina Domestica*, *Phygellus capensis*, &c., all well grown. A very fine collection of Dwarf and Tall Cacti, and the best collection of Cut Flowers exhibited, very well arranged. These were not for competition. Mr. Adcock was awarded honorary certificates for his various collections. Mr. Bunce also exhibited, not for competition, an immense number of plants in pots, a large Floral Tree and Seedling Pansies, the latter very good. Mr. Bunce was deservedly awarded several honorary certificates, although he did not wish to exhibit for prizes.

Amongst the Exhibitors of plants in pots the Hon. J. F. Strachan and Alfred Douglas, Esq., occupied the most prominent place. We regretted to observe that Mr. Douglas disqualified a rather good collection, owing to having only eleven species in it instead of twelve. He showed two *Gloxinias*, where, as we have no doubt, he could have put in another plant, and thereby obtained, as he deserved, the prize. For six plants, Mr. Strachan was first, and had fine plants of *Allamanda cathartica*, *Adamia versicolor*, *Euphorbia splendens*, &c. Mrs. Wyeth exhibited and obtained the prize for six very well grown young *Fuchsias*, but she spoiled one of her plants by having one of them trained to a kind of trellis. Mr. Strachan was first for six *Pelargoniums*, and they were well grown,—amongst them were, *Leonora*, *James Odier*, *Eugene Duval*, *Pandora*, and *Uncle Tom*. Mr. Douglas exhibited and got the prize for three well grown *Gloxinias*. Mr. Douglas also exhibited a good *Oncidium*. Mr. Strachan was first for *Balsams* and *Coxcombs*; a pretty standard *Fuschia* was exhibited by Mr. Wyeth. For rare plants, of which there were few exhibits, Mr. Strachan got a prize for *Rhapala Corcovadense*, and Mr. Douglas for a *Hibiscus*. In fine foliaged plants, Mr. Strachan exhibited *Musa Cavendishi*, *Farfugium Grande*, *Coloclimum celestinum*, &c. *Dahlias* were not numerous nor fine, and *Roses* were past their best. Mr. T. Jaffray obtained the prizes for *Roses*, both in the amateur and open class.

Mr. Cain exhibited a very good collection of *Hollyhocks*, and Mr. Powney, and Wm. Roadknight, Esq., had good *Verbenas*.

Cut flowers were not numerous, but for the period of the year were very good. Mr. Jaffray's exhibit in the amateur class, was better than Mr. Lewis' in the open class.

We expected to have seen a greater quantity of fruit, and, with the exception of the *Figs* exhibited by Mr. Dardell and A. McKenzie, Esq., J.P.;

Apricots by Mr. Adcock, the collection of Mr. Levein, Mr. Dardell's *Peaches*, Mr. Levein's *Black Currants*, and Mr. Roadknight's *Mulberries*, there was nothing very remarkable. In the Vegetable classes *Onions* were very fine, as were also the *Carrots* and some excellent *Rhubarb*. Mr. King's exhibit of the latter vegetable surprised many gardeners, it must have been grown on good moist soil. The collections of Vegetables were good, Mr. J. J. Myles being first, Mr. A. Douse second, and Mr. T. Powell third, at least that was our impression. Beet was first-rate, and there were two or three exhibits of very good *Cabbages*. Mr. Henry Adcock's *Carrots* were a beautiful sample. Amongst the Vegetables we observed an excellent sample of *Tobacco*, grown by Mr. Levein if we mistake not; the judges very properly awarded it a first prize. Mr. Trembling's Green-house model formed a conspicuous object at the entrance, and as a specimen of work, does Mr. Trembling great credit, but it is by no means the kind of model we should adopt for this colony, and we recommend Mr. Trembling to get a good practical gardener to give him a few hints, if he wishes to devote any portion of his time to Green-house building.

We regret that the Exhibition pecuniarily, has not been more successful, and trust that the March Show will make up for all deficiencies in the present one. The Committee deserve every credit for their efforts, the arrangements being good and deserving of greater notice by the public.

Ballaarat Agricultural Society.

Report of the judges appointed to inspect the wheat crops entered to compete for the two prizes offered by the Society.

Having inspected the whole of the crops entered for competition, with the exception of Mr. Miller's of Burrumbeet, (the judges having received a message from that gentleman, to the effect that he did not think the crop entered by him equal to some others entered for competition, and that he did not therefore desire to trouble the judges,) and having made a second inspection of several of the crops, which occupied three full days and part of a fourth, the judges are of opinion that the wheat crops of the district are this year a good average, and that the prizes should be awarded in the following manner, namely—

First prize of 10 guineas to Mr. David Clyne, near the Weatherboard Hill, Burrumbeet, the crop being a very fine clean crop of white velvet wheat.

Second prize of 5 guineas to Mr. Monaghan, of Ercildoun; also a white velvet crop.

Had a third prize been open for competition, the judges would have awarded it to Mr. Andrew Dalgleish, of Learmonth. The judges further report that several of the crops exhibited, were very fine specimens of golden drop wheat. They would also mention that one of the crops exhibited by Mr. Reid, of Ascot, was an unusually clean crop for land that had been cropped for five years.

(Signed) JAMES BAIRD,
JAMES LAIDLAW,
DONALD KENNEDY.

Learmonth, 24th December, 1860.

Villiers and Heytesbury Agricultural Association.

The following were the successful competitors:—

For the best cultivated farm of 200 acres in extent, over 6 years, £12,—Mr. Wm. Jellie.

Ditto, 100 acre farm, over 6 years, £8,—Mr. W. Anderson.

Ditto, ditto, under 6 years, £8,—Mr. P. McVicar.

For the best 20 acres of wheat, £10,—Mr. S. Thwaites.

Ditto, 10 acres oats, £5,—Mr. Wm. Jellie.

JUDGES—J. Jellie, jun., D. McKellar, and J. Johnston.

Correspondence.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—In reply to the inquiry by "Pepo," in the December No. of the 'Gazette,' respecting the removal of Ants from frames, pits, conservatories, &c., I submit the following, which has been practised for many years, and but for the inquiry of your correspondent, I should have thought had been generally known:—

Take Gum Camphor, break it into small pieces or grate it on a coarse grater, place it upon, or near to, the tracks frequented by the Ants. In close frames it will sometimes prove fatal to them; at any rate it will clear the frame of Ants in a very short time. The same thing is applicable to any place infested by Ants. Housekeepers need not have an Ant in the cheffioneer, pantry, meat-safe, or any other place, where sugar, meat, fruit, &c., are kept, as a very small portion of good Camphor kept in such places will entirely prevent the ravages of these uninvited guests.

Another, and a very simple, but at the same time a very effectual method of removing these pests, is to shred small, a clove or two of the bulb of Allium Satioum (Garlic), and scatter it about the tracks of the Ants; this will speedily remove them, but I do not think it is fatal to them. B.

Notices of Books, &c.

"CEYLON." (Second notice.)

Large as much of the timber is on some of the high mountains, it rarely is serviceable economically,—and as, evidencing its perishable nature, it is recorded that dead timber is but rarely to be met with, so rapidly does it go to dust, its natural tendency that way being accelerated by the white ants and other insects.

The magnificent *Erythrina Indica*, or Coral tree, is planted for fences, its stems being covered with prickles, and its splendidly scarlet flowers, when lighted by the blaze of the sun, being especially attractive; by the streams the pretty *Lagerstræmia Reginae* flourishes, with its long panicles of flowers, all as large as a rose, and varying in tint from a delicate pink to the deepest purple. The *Bombax Malabaricus* produces a kind of silky cotton, which affords a most luxurious stuffing for pillows,—it is a tall tree covered with formidable thorns, and being deciduous, the fresh leaves, like those of the Coral tree, do not make their appearance till after the crimson flowers have covered the branches with their bright tulip-like petals. So profuse are these gorgeous flowers, that when they fall, the ground for many rods on all sides is a carpet of scarlet.

The white rose-like flowers of the Iron tree (*Mesua ferrea*), contrasting prettily with the buds and shoots which are crimson, make them a desirable decorative ornament for the image of Buddha, and combined with them are the yellow-tinted Magnoliaceous *Michelia Champaca*, the flowers of which are overwhelmingly sweet. The India Rubber tree (*Ficus elastica*), though not indigenous to Ceylon, is very widely diffused over the island, it is remarkable for the pink leathery covering which envelops the leaves before expansion, and for the delicate tracing of the nerves, which runs in equi-distant rows at

right angles from the mid rib; but its most interesting feature is the exposure of its roots, masses of which appear above ground, extending on all sides from the base, and writhing over the surface, in undulations—

"Like snakes in wild festoon,
In ramous wrestlings interlaced
A forest Laocoon."—HOOD.

And from this interlacing it is called the "Snake Tree."

The abominable stench emitting *Sterculia foetida* is one of the finest and noblest of the forest trees; and the *Barringtonia speciosa* haunts the sea shore, attracting always by its delicate white crimson-tipped flowers, and dark glossy foliage. The well known *Strychnos nux vomica* abounds in the forest, and the seeds are taken as a prophylactic against the venom of the *Cobra*.

But the most striking feature in the vegetation of Ceylon, is, to quote from the author, "the endless variety and almost inconceivable size and luxuriance of the Climbing Plants and Epiphytes which live upon the forest trees in every part of the island. It is rare to see a single tree without its family of dependents of this description, and on one occasion I counted on a single prostrate stem no less than sixteen species of *Capparis*, *Beaumontia*, *Bignonia*, *Ipomœa*, and other genera, which in its fall, it had brought along with it to the ground. Those which are free from climbing plants, have their higher branches and hollows occupied by ferns and orchids, of which latter the variety is endless in Ceylon, though the beauty of their flower is not equal to those of Brazil and other tropical countries."

The branches of all the lower trees and brushwood are so densely covered with *Convolvuli*, and similar delicate creepers of every colour, that frequently it is difficult to discover the tree which supports them, owing to the heaps of verdure under which it is concealed. One very curious creeper, which always catches the eye, is the square-stemmed vine (*Cissus Edulis*), whose fleshy four-sided runners climb the highest trees, and hang down in the most fantastic bunches. Its stem, like that of another plant of the same genus (*Vitis Indica*), when freshly cut, yields a copious draught of pure tasteless fluid, which is eagerly sought after by Elephants.

But it is the trees of older and loftier growth that exhibit the rank luxuriance of these wonderful Epiphytes in the most striking manner. They are tormented by climbing plants of such extraordinary dimensions that many of them exceed in diameter the girth of a man; and these gigantic appendages are to be seen surmounting the tallest trees of the forest, grasping their stems in firm convolutions, and then flinging their monstrous tendrils over the larger limbs till they reach the top, whence they descend to the ground in huge festoons, and, after including another and another tree in their successive coils, they once more ascend to the summit, and wind the whole into a maze of living net work as massy as if formed by the cable of a line of battle ship. When, by and by, the trees on which this singular fabric has become suspended give way under its weight, or sink by their own decay, the fallen trunk speedily disappears, whilst the convolutions of climbers continue to grow on, exhibiting one of the most marvellous and peculiar living mounds of con-

fusion that it is possible to fancy. Frequently one of these creepers may be seen holding by one extremity the summit of a tall tree, and grasping with the other an object at some distance near the earth, between which it is strained as tight and straight as if hauled over a block. In all probability the young tendrils had been originally fixed in this position by the wind, and retained in it till it had gained its maturity, where it has the appearance of having been artificially arranged as if to support a falling tree.

But we fear we have forgotten that many of our readers may not feel quite as much enthusiasm on the subject as ourselves; should however the fates ever be propitious, to Ceylon we go, and be it on Mr. Tennent's head, who with his vivid and delightful descriptions of forest life and scenery, has set us longing for a ramble there.

After all we have but glanced at the Botany of the place; the book teems with interesting matter to the Geologist, Zoologist, Antiquarian, or Medical man; it certainly is one of the most attractive books which has come before us for many a long day.

PAPER MAKING.

The following, copied from the London "Gardeners' Chronicle," supplies a hint to some of our enterprising farmers, feeling their way to the cultivation of the raw material of some destined to be important manufacture. We commend it to their notice, promising that the Paper Making question is one of very great importance at the present time:—

The readers of the "Gardeners' Chronicle" do not require to be reminded how constantly we have supported the opinion of those who believe that the vegetable world produces other substances fit for paper making besides rags. It has always appeared to us inconceivable that no other vegetable refuse should be discoverable, which could be as profitably used up in a paper mill as the remains of tattered garments. Among the materials procurable in limitless quantity we have on more than one occasion pointed to the exhausted leaves and husks of Indian Corn, which, although not articles of English agriculture, are producible in every country the summer heat of which is equal to that of Southern France.

It now appears from a statement in the "Daily Telegraph," the best conducted of the penny daily press, that this opinion has already received full confirmation. We condense the account given by our able contemporary, based upon an article in the columns of the "Breslauer Gewerbeblatt":—

Recent experiments have proved Indian Corn to possess not only all the qualities necessary to make a good article, but to be in many respects superior to rags. The discovery to which we allude is a complete success, and may be expected to exercise the greatest influence upon the price of paper. Indian Corn, in countries of a certain degree of temperature, can be easily cultivated to a degree more than sufficient to satisfy the utmost demands of the paper market. Besides, as rags are likely to fall in price, owing to the extensive supply resulting from this new element, the world of writers and readers would seem to have a brighter future before it than the boldest fancy would have imagined a short time ago. This is not the first time that paper has been manufactured from the blade of Indian corn; but, strange to say, the art was lost, and required to be discovered anew. As early as the seventeenth century, an Indian corn paper manufactory was in full operation at the town of Rieve in

Italy, and enjoyed a world-wide reputation at the time; but with the death of its proprietor the secret seems to have lapsed into oblivion. Attempts subsequently made to continue the manufacture were baffled by the difficulty of removing the flint and resinous and glutinous matter contained in the blade. The recovery of the process has at last been effected, and is due to the cleverness of one Herr Moritz Diamant, a Jewish writing master in Austria, and a trial of his method on a grand scale, which was made at the Imperial manufactory of Schlögmühle, near Glognitz (Lower Austria), has completely demonstrated the certainty of the invention. Although the machinery, arranged as it was for the manufacture of rag-paper, could not, of course, fully answer the requirements of Herr Diamant, the results of the essay were wonderfully favourable. The article produced was of a purity of texture and whiteness of colour that left nothing to be desired; and this is all the more valuable from the difficulty usually experienced in the removal of impurities from rags. The proprietor of the invention is Count Carl Octavia Zu Lippe Weissenfeld, and several experiments give the following results:—

1. It is not only possible to produce every variety of paper from the blades of Indian Corn, but the product is equal, and in some respects even superior, to the article manufactured from rags.

2. The paper requires but very little size to render it fit for writing purposes, as the pulp naturally contains a large portion of that necessary ingredient, which can at the same time be easily eliminated if desirable.

3. The bleaching is effected by an extraordinarily rapid and facile process, and, indeed, for the common light coloured packing paper the process becomes entirely unnecessary.

4. The Indian Corn paper possesses greater strength and tenacity than rag paper, without the drawback of brittleness so conspicuous in the common straw products.

5. No machinery being required in the manufacture of this paper for the purpose of tearing up the raw material and reducing it to pulp, the expense, both in point of power and time, is far less than is necessary for the production of rag paper.

Count Lippe having put himself in communication with the Austrian Government, an Imperial manufactory for Indian Corn paper (*Maishalm Papier*, as the inventor calls it) is now in course of construction at Pesth, the capital of the greatest Indian Corn growing country in Europe. Another manufactory is already in full operation in Switzerland; and preparations are being made on the coast of the Mediterranean for the production and exportation on a large scale of the pulp of this new material.

Such are the statements made by our contemporary, with whom we join in the expression of a fervent hope that a great traffic will spring out of this new material, and that English vessels will shortly be freighted with shiploads of books and paper in embryo. We cannot however agree with him in believing that Indian Corn will ever be grown in England for the supply of paper mills. It is to be hoped that English land can be applied to more profitable uses.

ROBINSON'S REAPING AND MOWING MACHINE.

(From the "Farm and Garden.")

On December 24th, a trial of a new reaping and mowing machine took place in a paddock at Oaklands, on the Sturt, in the occupation of Mr. Alfred Wilson. The machine had been recently imported by the Messrs. Tuxford, and is the invention of Messrs. Robinson and Co., of Melbourne, manufacturers of agricultural implements.

The deputation from the Agricultural and Horticultural Society, who attended at Messrs. Tuxford's

request to witness the trial of the machine, gave the following report upon it:—

"We have this day seen the mowing machine patented by Messrs. Robinson and Co., and imported from Melbourne by the Messrs. Tuxford, working on Mr. A. Wilson's farm at the Sturt, and we unanimously agree that it is a most desirable and perfect implement, cutting its work clean, delivering the crop in parcels ready for the binder in fair-sized sheaves. We also tested the machine as a mower of hay, and have little fault to find with the style in which it performed the part of its duty, but would recommend the tail to be lengthened so as to throw the swathe clear of the near horse's feet. We have every reason to believe hay could be cut well and cheaply by Robinson's reaper. As a colonial production we have cause to be proud of the mower, and think the thanks of the farming community are due to the Messrs. Tuxford, for introducing an implement that we believe is destined to become a most useful adjunct to the farm. The workmanship of the machine reflects great credit on its manufacturer. It was also of easy draught, two ordinary plough horses taking it along with perfect ease, requiring the attendance of one man only, and travelling two miles to cut one acre, and think about one and a half acres per hour about the quantity we may expect Robinson and Co.'s reaper to accomplish.

"DANIEL FERGUSON.

"ALFRED WILSON.

"ROBERT MILNE."

The machine has also been worked on Mr. Bell's farm, Dalmaney Park, with the most satisfactory results. The following testimony to its efficiency has been handed to the Messrs. Tuxford:—

"We the undersigned farmers, being residents in Mount Barker and its vicinity, desire to certify that we have during the past two days witnessed a trial of the new reaping and mowing machine (the invention of Messrs. Robinson and Co., Melbourne, and recently patented in South Australia by your firm) on the farm of Mr. Allan Bell, of Mount Barker, and being fully persuaded that this implement will be of great value to the hill farmers, we consider that it is only due to you, that we should record our opinion respecting its performances.

"We consider that the machine did its work in a most efficient manner, taking down a very heavy crop of wheat on hilly country, cutting its work clean, and delivering the corn in easy-sized bundles ready for the binder's hands, without injuring the heads by the shedding of the grain. The machine was easily worked by one man and two horses, and reaped eight acres of strong crop in the space of five hours, and without the necessity of stopping for any repair or gearing. This work was performed under a burning sun, so powerful as to render it almost impossible for hand-reapers to have taken the field. The workmanship of the machine is good and substantial, and Messrs. Robinson & Co., we consider, deserve the greatest credit for the style in which it has been turned out.

"We cannot close this letter without expressing our cordial thanks to you for the trouble which you have taken to give the farmers of this district an opportunity of inspecting the working of this new and valuable implement, which we consider is destined to become of the greatest value to the farmers of every part of the colony; and for the courtesy which you have exhibited towards us, and the readiness with which you have explained to us the construction and working of the implement, we beg to tender you our warmest thanks, at the same time assuring you that the new implement has given us the most entire satisfaction, and we trust that it may soon be found working all over the colony. We have also to record our thanks to Mr. George Dickson, the manager for the spirited inventors of the machine,

for his courtesy and attention during the trial, and we shall feel obliged if you will convey the same to them.

"We are, Gentlemen, yours very faithfully,

"ALLAN BELL,

"JOHN FRAME,

"FRIEND CLEGGETT,

"JOHN TALLANT BEL,

"WILLIAM WEDD,

"THOMAS HAMBLYN,

"JOSEPH BAINSTON,

"JAMES RUNDLE.

PRESERVING FRUIT.

The following Seasonable Hints, furnished by a correspondent, (E.) are taken from the last number of the "Farm and Garden":—

As the time is again approaching when Fruit will be ripening, may I offer a few results of experiments tried in our family during some years past.

The ungrafted Cherry, which grows so freely in our colony, I have dried in the sun, and it retains its flavour very well, but being rather small and very juicy loses greatly by evaporation; I do not, therefore, recommend attention being turned to that fruit.

Next in order come the Peach and Nectarine, both admirably adapted for the purpose. Slip stones, ungrafted, fleshy, and mellow, are all suitable; but they should be gathered before becoming quite ripe, while yet firm enough to bear the knife without crushing. We do not peel, but simply slice the fruit, spreading it in a single layer over sheets of metal tin, dairy dishes, or any other wide surface; metallic is best, as attracting the sun's rays more powerfully. The dishes or trays being covered, are placed in the sun, and brought under shelter of a night; should the day have been favourable they may require turning with the hand the following evening. Three or four days will complete the process, when they may be put into paper bags and stored in a dry place, or casked down if preferred.

Nectarines simply halved do very well, but require a greater length of time to dry.

Plums, such as the Emperor Alexander, Harvest, or Nursed Plum, &c., must not be exposed to the sun's rays, as they are liable to split, and the acid being extracted from the skin is mingled with the pulp, rendering them too tart. Let them, therefore, be placed in the oven after the bread has been removed, and dried very gently and patiently—they will repay the trouble. We have had them equal to French prunes, with a fine bloom, mellow, and good-flavoured.

Pears, Apples, and Quinces may all be sliced and dried in the sun. Care should be taken in all cases to select sound fruit; but windfalls, judiciously sliced, the bruised parts being rejected, will answer the purpose. A higher branch of this simple and useful art is the curing the Apple so as to resemble the biffins of the confectioner. The process is this:—Select a number of fine ripe sound Apples, puncture the skin with a needle in several places, then put them to steep in a pan of cold water for twelve hours, remove and spread them on a cloth to drain. Have your oven a little above blood warmth, arrange the fruit on trays, and put them in, suppose in the evening; next morning remove them, add a degree or two of heat, turn and replace; when thoroughly soft, but not browned, gently place the hands one above and the other below, that is on the flower and stem extremities, and firmly and evenly compress them. This is the art, not to break the skin or the Apple is spoilt for a biffin. As the fruit dries, the oven may be increased in temperature; but it must be borne in mind that the aim is not to bake but to dry it; on each occasion when removed it should be compressed till it is a sort of bun shape. It is then a nice addition to the winter's dessert, wholesome and pleasant.

DOMESTIC FLOWER CULTURE.

FLOWER-STANDS.

Communicated to the "Farm and Garden," by Mr. J. Smith, Norwood.

STANDS are commonly made of wood or cast iron; but I have also seen very cheap and pretty ones constructed of a wooden upright, with suspension arms of stout iron wire. Wooden ones, with plain shelving of circular, semi-circular, or quadrangular forms, make very handsome stands for recesses and corners; those on single uprights, with branches for the support of the pots, are usually constructed of iron wire, or of cast-iron, bronzed or painted, and are best adapted for central situations in lobbies and drawing-rooms. It may not, however, be in the power of some to procure flower-stands of either descriptions, and for such, one board placed in the window recess, so as to bring merely the top of the first row of pots within influence of the light, and a second level with the top of the first pane, will make no inelegant display, the effect of which will be heightened by suspending some light pots of cacti and the like from the lintel above.

Of plants for suspension, a great variety can always be easily obtained and as easily nurtured, as the majority of them need very little attention. Some require to be grown in pots and watered, but many will send down their graceful pendants and blossoms for years with no other supply of moisture than what they absorb from the atmosphere. Indeed a number can be grown without the aid of soil—a wet rag, a ball of moss, or of fresh tar, being the only protection their roots seem to demand. Pendant plants form very handsome appendages to a dwelling apartment, and no amateur should be without a variety of them to grace his collection. Of these may be mentioned as worthy of adoption, *Russelia juncea*, *saxifraga*, *sarmentosa*, *cereus flagelliformis*, *grandiflorus*, *stapalia*, *lufornia*, *grandiflora*, the epiphyllous sorts of cacti, and the trailing mesembry anthimums, with many of the tender creepers before mentioned, may be trained pendant as well as erect.

It is apparent, then, from what I have stated, that every one—rich or poor, the tenant of one humble apartment or the possessor of a splendid mansion—can equally indulge according to his or her means, in the culture of what is lovely fresh, and fragrant in the vegetable creation. If he cannot afford expensive pots and stands, he can obtain, at least, his wooden box or pot of earthenware; and if he cannot purchase what is rare and strange, he can have around him what is equally lovely and fragrant, as the common geraniums, *Hydrangeas*, *Fuchsias*, *Petunias*, *Hiliotropeas*, *Musk-plants*, and a hundred others which will flourish luxuriantly in the humblest cabin. If his means will not afford ornamental pots, and elegant stands, he can at least keep clean and orderly such as he has; always remembering that the luxuriant and healthy plant will be an ornament of itself, though grown in an teapot, while the most expensive vase will not compensate for a poor stunted and neglected plant. The love and taste for what is beautiful and graceful, and healthful in nature, is the great object to be gained. Filth, disorderly habits, and dissipation are inconsistent with that love, and where it exists genuinely and strongly there also will be cherished the greater regard for external decency and order, and these in turn will lead to more elevated thoughts, and to

tastes and habits far removed from all that is mean and sensual. There is perhaps no pursuit which leads the mind more directly to an appreciation of that wisdom and goodness which pervade creation than the study of the vegetable kingdom, in which infinite variety, beauty, and elegance, singularity of structure, the nicest adaptations, and the most pre-eminent utility, meet us at every step, and compel up to observe and learn, even when often the least disposed to enquiry or reflection. But waiving all these, the nurture of plants is an object for the amusement and recreation of the female and invalid; something to engage the attention, something to cherish, and something wherewith to decorate and perfume their dwellings, when the means are perhaps denied them of adding more expensive ornaments of taste and fashion. Take it even in the light of a mere recreation for an idle moment, it is at least an innocent and cheerful one, one that never interferes with the comfort of a neighbour, or brings to the cultivator one tear of mortification or regret. To use the words of the poet—

"Not a tree,
A planet, a leaf, but contains
A folio volume; we may read and read,
And read again, and still find something new;
Something to please, and something to instruct,
Even in the humble weed."

"God," saith Wordsworth,
"Made the flowers to beautify
The earth, and cheer man's careful mood;
And he is happier who hath power
To gather wisdom from a flower,
And wake his heart in every hour
To pleasant gratitude."

A Journalist is a giver of advice, a regent of sovereigns, a tutor of nations. Four hostile newspapers are more to be feared than a hundred thousand bayonets.

HAVE the courage to give, occasionally, that which you can ill afford to spare; giving what you do not want nor value, neither brings nor deserves thanks in return; who is grateful for a drink of water from another's overflowing well, however delicious the draught? Have the courage to wear your old garments till you can pay for new ones.

If you wish to know a man's character, wait till some disgrace or misfortune happens to him, and you will soon see either all his greatness or all his weakness.

To Subscribers.

THE present number commences the fifth volume of the "Gazette," and in order to meet the regulations of the Post Office, it will be necessary that in the ensuing year we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.

With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

Number Two will be published on the 14th February, 1861.

Subscriptions in Arrear.

THOSE parties whose Subscriptions to the "Gazette" are in arrear, are particularly requested to forward the amount thereof, in *Postage Stamps* or otherwise, to the publishers, Messrs. Heath and Cordell, Malop Street, Geelong, without delay. So numerous have these back Subscriptions become, that although individually but a few shillings, collectively they amount to several hundred pounds. We trust, therefore, that our friends will at once respond to this application.

SUBSCRIPTIONS received since our last issue:—

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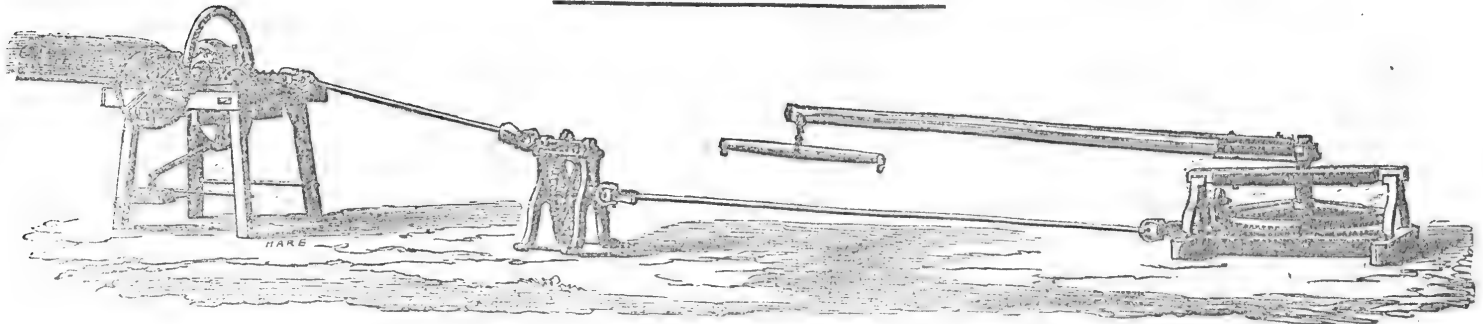
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NOTICE OF REMOVAL.

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UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 2.

FEBRUARY 14, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

FARMING OPERATIONS.

THE advice we tendered our Agricultural readers last month was unfortunately too necessary, as subsequent events proved. A large number of farmers had, as is the usual, but injudicious custom, allowed their Crops to lie out for weeks after they had been cut; the heavy rains of the 31st ultimo and of the 1st instant set in, followed by moist cloudy weather, and the consequence is, that in too many instances these persons have lost their Crops altogether. The wheat has grown in the stook, and in the ear while standing, and is therefore rendered altogether unfit for the purpose of grinding into flour for human food. It is now only fit for pigs' meat. Had anything like prudent forethought been exercised, more than one-half the grain so destroyed might have been saved to its owners and to the country. Even since that we have noticed a seeming carelessness, and want of industry on the part of owners of cut Crops that is highly blameable, and in the majority of instances the straw and the chaff, and other refuse that might be converted to some use is allowed to go to waste. The heavy rains alluded to, together with the rain that fell some time before, have had the effect of starting a second Crop, or second growth in many of the fields, and the Agriculturists seem generally inclined to avail themselves of this boon by saying the same for their cattle and horses. Nothing can be more erroneous, the plough should immediately be set to work in all such fields, and every vestige of vegetation buried by the ploughshare. By adopting this plan, not only will the present growth of weeds and stray plants be destroyed before it can seed, but nearly all the seeds now lying on the surface will be buried, and will have vegetated in time to be destroyed in their turn by a second ploughing.

We presume it unnecessary to notice here the advantages of a second ploughing, as these are too well known. The action of a few months' sun on newly turned land is equal to a slight—and where the land has had new soil turned up—to a strong coating of manure.

The stubbles where left long should be at once scraped together and taken to the dung-heap, or what is much better, stowed away for bedding for the cattle, to be subsequently trampled into manure.

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Horticultural Improvement Association.

GRAND EXHIBITION
OF
FLOWERS, FRUITS, AND VEGETABLES,
AT THE
MECHANICS' INSTITUTION, GEELONG,
On Wednesday, 27th February instant.

THE Public will be admitted on payment of ONE SHILLING, and the Exhibition will remain open from 2 until 6, and from 7 until 10 p.m.

A Band will be in attendance.

SAMUEL HANNAFORD,
Honorary Secretary.

N.B.—Schedules may be obtained of Mr. Clarkson, Messrs. Heath & Cordell, or the Honorary Secretary.

Horticultural Improvement Association.

THE MONTHLY MEETING of Members will be held in the Class Room of the Mechanics' Institution, on WEDNESDAY, the 20TH FEBRUARY, at 7 o'clock p.m.
Mr. Boycell will read a paper on "The Cultivation of the Peach."

SAMUEL HANNAFORD,
Honorary Secretary.

The Geelong and Western District
AGRICULTURAL AND HORTICULTURAL
SOCIETY'S

ANNUAL EXHIBITION

OF
FARM PRODUCE, FRUITS, FLOWERS, VEGETABLES, &c.
Will be held on the Society's Grounds,
RYRIE STREET EAST,
On Thursday, the 21st March, 1861.

ALL Entries of Exhibits must be made with the Secretary on or before Tuesday, the 19th March, at 4 p.m. Prize Schedules, and all information, may be obtained from the Secretary, at his Office, 81, Moorabool-street, where Members' Tickets, £1 ls. each, for 1861, may also be obtained.

JAMES CAMPBELL,
18, Moorabool-street, 14th Feb., 1861. Secretary.

Western District Pastoral and Agricultural
Society.

THIS SOCIETY will hold an
EXHIBITION

OF
AGRICULTURAL PRODUCE & STOCK,
AT MORTLAKE,
ON THE 20TH MARCH NEXT.
For particulars of Prizes, &c., apply to the Secretary,
THOMAS SHAW, JUN.,
Honorary Secretary, Elephant Bridge.

As to the price Wheat and Oats is likely to reach, we don't care to say much about that; an opinion has gained ground that owing to so much Wheat being spoiled by the late rains, that grain is likely to rise in price; but we are not of that opinion, because there are abundant supplies in many portions of the country that were not visited by the rain, as well as in the adjacent colonies.

Continue to secure all the straw and refuse after the threshing machines,—this cut up and mixed with green Millet or Sorghum makes an astonishing strong food for cattle and horses. Care must, however, be taken not to let the two latter plants grow too strong, as the stems became rather too hard, and require pressing or crushing. It seems unaccountable to us that with such magnificent green fodder to be got, it is not generally introduced to our livery stables and cow houses.

Among the canes and roots the hoe must be kept going, so as to keep down the weeds, but above all things prepare to get the next year's Crops in in good time. Remember that one month may make a difference of from five to ten bushels an acre. Whenever practicable, we recommend the preparation of ground for the planting of hedgerows. These must be generally adopted soon.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

THE views of any Contributor of known integrity and intelligence, upon subjects of public importance, will always find a place in the "Gazette," if space permit, and they are free from intemperate language and personalities.

JERUSALEM ARTICHOKES.—(Pepo.)—We only remember one instance similar to yours, and the plants were left all winter and grew the next Spring, producing a good crop. This was in Hertfordshire, in England. We never experienced any difficulty with them, treating them almost like Potatoes, but planting further apart. Whole sets, medium sized, were put in, from four to six inches deep, in a moderately rich piece of ground, rather moist. We presume that you planted whole sets with eyes sufficient to form shoots, and would let them remain till Spring. We cannot account for their not growing unless the soil has been very dry.

GRASS.—(Stigma.)—The Golden Oat-grass, Avena flavescens, is a useful grass for light sandy soil, and yields a considerable bulk of fine herbage. It arrives early at maturity, and is a Perennial. It is the most useful as a Hay and Pasture Grass of the genus to which it belongs.

BREEDING.—(Short-horn.)—Mr. Bakewell commenced his operations for the improvement of Cattle and Sheep at Dishley, in Leicestershire, about the middle of the last

century. The practice of this gentleman and his followers, furnishes an instance of the benefits of a division of labour in a department where it was little to be expected. After their Stock had acquired that degree of celebrity which they so justly merited, the males were let out every year to breeders from all parts of England. The prices at which Bakewell's Rams were hired appear enormous. We learn from the *Encyclopædia Britannica* that in 1789 he received £1,200 for the hire of three brought at a birth. We see nothing extravagant in a prize of three hundred guineas for a Ram.

FARM WASTE.

It is not the first time we have felt it our duty to draw attention to the singularly unaccountable waste that meets the eye of the observer on our colonial farms, and what is more singular still, on many of the largest and generally acknowledged best kept farms, this total absence of anything like rural economy continues to prevail. One would have thought that men professing to be practical agriculturists, able to read books, and possessing the advantage of living in an age when the most useful practical works on Agriculture can be purchased, hired, or borrowed in almost every town in the country, would have availed themselves of the wholesome advice laid down in the numerous Agricultural publications of the present day; but it would appear that in nine cases out of ten, the valuable information to be acquired from these works, is either disregarded or misapplied. Many men who have forsaken the counter, the bench, and the desk, to become agriculturists, do place implicit faith in these grand guides to prosperity; but they unfortunately, wanting that practical experience which can alone make them understand the proper application of the rules laid down for their guidance, fail to apply them advantageously. For such persons sympathy may be expressed and felt,—but for men of any practical experience, there is no room for the expression of a similar feeling. They work on in obstinacy,—the others in ignorance.

A Farm is too often looked upon as a place for growing grain only, with occasionally perhaps a few potatoes. The occupier considers that when he ploughs his ground, reaps his crops, and sells his produce, he has done all that, as an agriculturist, is required of him; his straw is burned out of the way, or left in a heap to be rotted by rain, or blown away by the wind. The refuse grain may by chance be picked up by fowls, if any be kept, but the idea of keeping pigs or cows to consume the straw and waste stuff of the Farm, is

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James Murdock, 288, Brunswick-street, Collingwood.

— Wood, Seedsman, next Toorak Hotel.

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HAVING determined to reduce his present ENORMOUS STOCK, will, for TWO MONTHS, Sell all Goods at MELBOURNE WHOLESALE PRICES!

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A FOUR-HORSE Threshing Machine, in excellent working order, for Sale at

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To Let by Tender,

TWO FARMS upon the Roslyn Estate, now in the occupation of Mr. John Leigh and Mr. John Honey. Each farm contains about 212 acres, of which 90 acres are in pasture. On the Home Farm there is a large dwelling house surrounded by a productive garden and orchard of 4½ acres. On the Lower Farm there is the farm steading and dwelling house, occupied by Mr. Leigh. These well known farms will be Let upon Monday, the 18th day of February, either in one or two lots. For full particulars apply to

DAVID FISHER.

Roslyn, 16th January, 1861.

JOHN EDEN,

Land Agent, Surveyor and Valuator, &c.,
24, RYRIE-STREET EAST, GEELONG.

HAS Farms to LET and SELL, from 40 to 500 Acres, on very moderate terms.

N.B.—Conveyances and Leases effected; also, sums of money to lend on real property, from £100 to £1000.

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

not for a moment entertained. If one enquires why these animals form no part of the farm stock, he is told that it won't pay to grow food for them, while most likely the farmer has allowed as much straw to be destroyed, as with other food, would have kept up several good milkers, and as much waste from his garden and stubbles has perhaps taken place, as would have fattened several pigs.

Nothing can be more preposterous than to argue that any attention or time bestowed on the most frivolous savings on a Farm, can be misapplied. A Farm is a place on which everything that is unsaleable, without exception, should be saved for the manure heap; indeed we question that, even if straw were selling at a fair price, it would not be better and more profitable to the farmer, to let it pass in the ordinary way through his stables and cow-houses to his dung-heap, to selling it for ready cash. The agriculturist who knows his business, will not for one moment hear of time being misspent in the collection of the most trifling rubbish; not a bone, nor a rag, nor a weed, leaf, or straw, will be allowed to go to waste, everything must be gathered together, either to be burned for ashes, or to cast on the general dunghill.

There may be some exceptions to what we feel inclined to lay down as a general rule, that is, that in this country Farming will not prove remunerative unless cows, pigs, and poultry form part of the stock. In the more elevated districts along the dividing coast ranges and on rich land, the production of grain may prove a paying occupation, without the adjuncts we have named, but even there we contend that the profits would be much increased by the contributions from the dairy, the piggery, and the hen-roost. We have heard it said that neither butter nor cheese can be made here equal to that produced in Britain. This is totally untrue; there is no country on the globe where better butter has been made, and no country where better cheese might be made, than in this little colony of ours. Let the farmer be possessed of a few good well-bred cows of the dairy kind, let him feed them on the proper proportions of sweet hay or oaten straw, sugar cane, and mangold or beet, give them plenty of water and keep them clean, and no artificial food that ever was grown will produce richer milk or make finer butter or cheese.

The Sorghum and the Imphee which are available for about five months in the year as green fodder, produce a most wonderful effect on the quantity and quality of the lacteal secretions. The reason why a cheese equal to our best English is not met with here, is traceable to other causes than the want of milk fit for its manufacture, and may be easily remedied;—but the art of dairying is not the subject we have in hand, and we must limit our remarks to the duty of economy in the dairy and the milking yard, as well as on the Farm generally.

The economy we speak of, is that rigid frugality that takes care that nothing is lost or wasted; that everything produced on the Farm is converted to some profitable use. Economy in wages and in living is very commendable, but economy in wages not unfrequently proves to be simple extravagance, for what will it advantage an employer if to save five pounds of wages per annum, he hires a servant, who from carelessness or neglect, causes him a loss of ten or fifteen pounds. The economy of wages then consists in securing prudent, thrifty, and careful servants on whom you can depend, without attaching too much consideration to the question of a pound or two per annum, over or under the ruling rates.

The refuse of the Dairy forms no unimportant item in the profits of a Farm; no food makes more delicate pork, nor affords better nourishment to fowls than milk in any state, and it is wonderful to see the wanton waste displayed in the manner of placing this food before the animals, even on those establishments where it is used as food. Instead of being placed in vessels from which it can be swallowed cleanly, it is more often the case that the pigs and fowls get into the troughs bodily, and waste half as much as they eat, if not more, whereas a very trifling outlay would prevent this.

Ashes form an almost indispensable article to the farmer for many purposes, such as for preparing beds for certain seeds, and for mixing with other seeds when these are to be sown. An ash-pit should therefore be an institution on every stead-ing. To this spot all weeds, cleanings of ditches, hedge clippings, turf, rags, chips, bark, and everything combustible, that

Florists' Bulbs and Tubers, Imported and Colonial saved.

THE Prize Ranunculus, Prize Anemones, Tulips, Amaryllis, Gladiolus, Lilliums, Hyacinths, Crocus, Jonquills, Polyanthus, Narcissus, Agapanthus, &c. &c.

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Experienced Gardeners Recommended.

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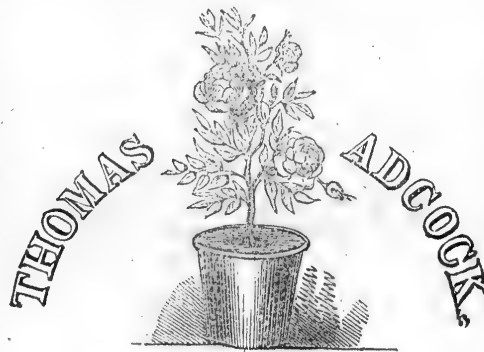
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T. A. respectfully invites the public to an inspection of his splendid Collection of DAHLIAS, now in full bloom.
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BALLAARAT.

WE have much pleasure in intimating that MR. WILLIAM ELLIOTT, of the CRESWICK ROAD NURSERY, has become a Partner in the Nursery Business, and will take the active management of that department; and his well-selected Stock of Plants having been added to our own, we can now offer for Sale an Assortment unrivalled in the interior of the Colony.

The Elegant Greenhouse on the Main Road is now filled with beautiful Plants for Sale; and no exertion will be spared to keep up a supply of

Fruit Trees, Shrubs, and Ornamental Plants, suited to the wants of this rapidly improving district.

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MESSRS. B. & S. JOHNSON,

PRACTICAL SEED GROWERS, NURSERYMEN,
FLORISTS, &c.,

THOMAS TOWN, PRESTON.

will not make better manure in the dung-pit or dunghill, should be brought and consumed here, and the ashes carefully collected and stowed away for use.

Dung-pits or dung-heaps do not receive that share of attention they deserve, no regular method of making the best manure and of preserving the ammonia being adopted. The dung-pits are decidedly preferable to the heaps or hills, as in the latter the manure can be more readily trodden down, and there is less chance of the volatile gases escaping. In connection with these manure heaps or pits, there should be a tank or tanks—no matter how roughly formed,—into which the drainings from the cow-houses, the stables, and the milking yard should be led. This liquid will be of great value, not only for the purpose of being used as a liquid manure, but also for drenching the dung-heap or pit occasionally during the dry weather.

The grand secret of improving arable land economically, is to return to that land in the shape of manure, something equivalent to the crop cut from it. The course of abstraction and addition should progress regularly every year, and the nourishment returned should be at least equal to that abstracted by the previous crop,—but it must rest with the practical and industrious farmer to augment the supply of that nourishment to its greatest limit. To do so, Waste, in the minutest of matters, is a word that must be struck out of the Agricultural vocabulary.

SEASONABLE HINTS.

Celery.—In our last volume we gave numerous directions in regard to this much esteemed denizen of the kitchen garden, and we refer to it again here to remind amateur gardeners that this is a season when it should be planted extensively. Young plants may be obtained, we have no doubt, from the nurseries or market gardens, and they should be planted out in ridges, in single rows, or in four feet ridges across the ridge. The ridge should be taken out to the depth of eighteen inches, and the soil laid up at the sides, to be returned again when the celery requires earthing up. Manure should then be dug in the bottom of the trench, to the depth of six inches at least, and the plants put in, as stated, and attended to with water. Plantations at intervals of three weeks or a fortnight should be made.

Onions.—These will in most cases be fit for harvesting, and they should not on any consideration be allowed to lie on the ground or to remain in the ground, so that the roots take a second growth, if so, the crop will be spoiled

for keeping. And whether they be kept in ropes, a plan we do not recommend, or laid on floors, they should be kept dry and have a current of air passing constantly over them.

Bulbs.—The season is at hand for bulb planting, and amongst them the Hyacinth, and steps should be taken to prepare for them. Where it is intended to purchase new varieties, or even the general stock, it is a bad plan to wait till they are absolutely wanted. He who applies to the salesman first gets the best roots, and will consequently get the best bloom. As a general rule, bulbs like a light loamy soil, and abundance of well rotted cowdung, a manure there ought to be no difficulty in obtaining in this country. For a Hyacinth bed we would take out the soil to a depth of fifteen inches, sloping a little, and over the bottom we would put six inches of well rotted cowdung, beating it down pretty firm; if the natural soil was not very good we would wheel it away and fill up the bed with some fresh turfy loam, being the top spit of any common or paddock where sheep may have been grazing. We do not mean to say that these things are absolute essentials for success, but we give them that they should be secured if possible, those who cannot get them will get something like them. In planting the bulbs use a trowel, and put a little sand in along with the root to keep it from moulding, and perhaps decaying, in wet weather. This applies to Hyacinths, Ranunculus, Anemones, Tulips, &c. And, plantations of these bulbs should be made from the beginning of March to June at intervals. Bulbs intended to flower in pots should have plenty of drainage, and the soil should be rich in cowdung. Hyacinths for glasses should be kept in the light, and should have rain water to grow in, and the water should be kept up to the root, not over the bulb, and should be changed every fortnight after the bulb begins to grow.

HORTICULTURAL CHEMISTRY.

FRUITS.

The suggestions which I ventured to throw out with respect to Flowers, (meaning florist's flowers), in last *Gazette*, may, I think apply *a fortiori* to Fruits. The splendid new double Zinnias produced in France by M. Vilmoren, like the thousand and one beautiful Roses of Rivers & Son, the gorgeous Chrysanthemums of McIntosh, and the exquisite Amaryllidæ of the Hon. and Rev. W. Herbert, must have had their origin in the chemical elements of the plant,—food furnished by the manure artificially employed in their cultivation. Our minutest analysis and most searching histological investigations by the microscope, may never enable us to detect the precise chemical ingredients, which can convert a field gowan into a double daisy, a dog-rose into a cabbage-rose, or a miserable, hard, sour, hedge crab into a Ribstone pippin, or a golden Harvey; but, peculiar chemical elements in the food, it most assuredly is, whether we can detect this or not.

In the animal world, the most striking effects are produced by peculiar feeding. The "fatted calf" of the London gourmand, is the product of oil-cake. The baby fed on arrow-root, when the mother's milk is deficient, grows fat and puffy, while the bones and brain diminish. The fat beauties in the African harems are manufactured by their mothers forcing them to drink

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Oats, Barley, Bran, Pollard, Chaff and Maize.
Seed Potatoes, from Brown's River and Circular Head;
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samples.
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Hedge and Tree Seeds, and Plants of same.
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Virginian Tobacco Seed, (Colonial saved.)

KITCHEN GARDEN SEEDS

Comprise—
Peas, Beans, Broccoli, Cabbage, Carrots, Cauliflower.
Celery, Cress, Cucumbers, Lettuce, Melons.
Onions in variety, Parsley, Parsnip, Radish.
Turnips, Vegetable Marrow, of sorts, and Herbs, &c.

FLOWER SEEDS.

Upwards of 200 varieties of Annuals, Biennials, and
Perennials, containing all the choice old favourites,
and a select assortment of the newest and most
approved sorts.

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GENUINE AUSTRALIAN GUANO,
At £5 15s. per Ton.

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Sole Agent for Geelong.

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(Near the Hospital.)

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Wholesale and Retail Seedsmen, Seed Farmers,
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HAVE on hand a large and well grown Collection of Seeds
of every description suited for the Farm and Garden.
For particulars see Catalogues.

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WHOLESALE AND RETAIL

Nurserymen, Seedsmen, and Florists,

HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds.
Fruit, Forest, and Ornamental Trees.
Shrubs and Pot Plants, a good variety.

Grass Seeds.

For Sale at the Stores of

JAMES HENTY & CO.,

WH I T E C L O V E R
Red Clover.
Timothy.
Italian Rye Grass.
Hard Fescue.
Crested Dogtail.

JAS. HENTY & CO.,

Brougham Place.

8th December, 1860.

Wheat.

THE Undersigned are Purchasers of Wheat at Market
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GALVANIZED FENCING WIRE; Black Fencing Wire
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GUANO.

FLAT Island GUANO, £5 15s. per Ton in Geelong. For
Potato Garden and Cereal Crops, recognized as superior
to Peruvian. Askunas and Co., 58, William-street, Melbourne.
Agent.—Mr. ALEX. REID,
Ryrie-street, Geelong.

enormous quantities of milk, the chief food, I am told, of the Australian Fat Boy. But perhaps the most wonderful instance of this kind, is to be found in the hive of the honey-bee, in which by peculiar food, instinctively known to those singular insects, they transform the larva of a working bee, (neuter as to sex), into a queen-mother. The fattening of a stall-fed ox, or the training of a pugilist or a race-horse into sporting condition, is nothing to this wondrous transformation; and yet this is little more surprising than the change of the wilding pear, juiceless, tasteless, and grainy, into a jargonelle; or of the small, tiny, currant-like, green of the British woods into a Bigaroon or a May Duke cherry; or of the sloe into an Orleans or magnum bonum plum,—all, all effected by an untraceable and inscrutable chemistry.

The stimulus of gain,—the insatiable desire to acquire wealth, is daily discovering the most extraordinary secrets,—some of which might be turned to account for advancing the Horticultural Chemistry of the orchard,—flavour for example. It is well known, that confectioners and others employ as a flavouring ingredient, what is termed oil of bitter almonds, akin, in one of its elements, if not identical with that deadly poison prussic acid, known to chemists as hydrocyanic acid. This essential oil, which is heavier than water, was originally procured by distillation from almond cake, after expressing the common oil of almonds, which is tasteless and scentless. The essential oil was consequently expensive and could not be used in the wholesale way now followed; but being chemically known to be the hydruret of benzule, which exists in quantity in the *residua* of the gas works, what is now sold as the oil of bitter almonds, is procured cheaply from this gas *residuum*. Again, another admired flavour, that of the pine-apple, has been found in the drainings of byres and cow-houses, from the dung and urine of cows, and the pine-apple rum and pine apple ale, considered so exquisite in bouquet, are flavoured from this singular source, as well as what is sold as strawberry jam,—the pine-apple and strawberry being somewhat similar in flavour and aroma.

Now the practical inferences suggested by these details, seem plainly to indicate the application through manures, (guano preferable to all others), of the flavouring ingredients,—such as watering pine-apples and strawberries with the drainings of cow-houses, well diluted of course with water, to guard against over stimulus, and always adding guano to nourish the plants. In the orchard again, the stuff from the gas works, whence the so-called oil of bitter almonds is procured, might be advantageously used to manure the filbert bushes and the walnut trees, for imparting flavour to the nuts. And, what would be highly important, the same residue from the gas works might be used for vineyards, (where wine resembling sherry is intended to be made), for imparting to the grapes the admired nutty flavour, while the cow-house liquid manure might possibly originate pine-apple wine.—More in my next.

J. R.

WATERING PLANTS.—As a rule, water should never be given to out-door plants until the further withholding of it would be detrimental to them. Habitual watering does, in the majority of cases, more harm than good. Plants left to battle with drought send their roots down deep in search of moisture, and when rain does come they benefit more by it than those that have regular waterings all along, if the ground is dug deeply and kept in good heart.

The Tea Plant.

ELSEWHERE in our columns we have intimated the necessity of introducing into this Colony some new industrial pursuits to compensate for the low prices now ruling, and likely henceforward to rule for Agricultural produce, and now, in addition to the Education of Silkworms, we would earnestly recommend to the attention of our readers the advisability of cultivating the Tea Plant.

That our soil is well adapted to its growth, we may quote from the report of Mr. Fortune, who was for many years in China, in the capacity of Botanical Collector to the Horticultural Society of London, and was subsequently engaged by the East India Company, to procure supplies of Tea plants, seeds, implements, and tea-makers for the Government plantations in the Himalayas.

"Tea, in order to be profitable, requires a good sound soil, a light loam, well mixed with sand and vegetable matter, moderately moist, and yet not stagnant or sour." In the Himalayas the plan of irrigation is generally employed, but this is not recommended; the Chinese tea plantations, which do not undergo that process, being far superior; indeed Mr. Fortune remarks, that the best Himalayan plantations are those to which irrigation has been most sparingly applied.

In the cultivation of the Tea plant, as well as in the rearing of Silkworms, advantage might be taken of the large number of Chinese now amongst us, many of whom will be conversant with its growth and subsequent treatment, and be hired at a less rate than labourers from the home countries.

We shall, in a future number, speak more fully of the Tea Plant and its mode of cultivation; at present we will merely add that Dr. Mueller has furnished us with a supply of Tea seeds, lately received from the Governor of Hong Kong, which we shall have pleasure in distributing to such of our readers as may be willing, and have the means to experiment on them.

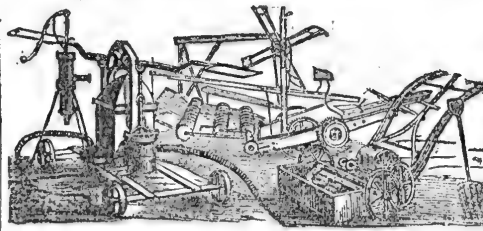
HINTS ON THE CULTIVATION OF ANNUALS.

Amongst the manifold ornamental plants which have been introduced to our gardens at home, Annuals take a very prominent place, but not so in our colonial gardens, where but few (and these in small variety) are cultivated. A prejudice, that they will do no good here, seems to have prevented their general cultivation, and yet we find many, which coming from similar climates as our own, will do well and amply repay us by a luxuriant bloom, for the little labor bestowed upon them.

Annuals as a class, will thrive best in a deep tolerably rich garden soil, which, without retaining stagnant water, should not be too dry. The borders of any flower garden prepared with the usual care, will afford good places for many of these plants, as they produce a very good effect if sown in patches or singly between the shrubs, care being taken to arrange them according to the height to which they grow. Several others, as for instance Stocks, Asters, Balsams, &c., are well adapted for forming groups by themselves.

The time for sowing Annuals here, extends from April to September, and for some kinds

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GUANO!

GENUINE PERUVIAN. Sole Agents
in Geelong—

SWANSTON, WILLIS & STEPHEN.

even to October; May and June I take to be the most favorable period for sowing the general collection; a second and third sowing may be made in August and September, as by doing so a succession of flowers may be secured. Some of the more tender kinds, *Balsams*, *Martynia*, *Browallia*, *Portulaca*, etc., will not stand the cold and wet during the winter months, and these should not be brought into the ground before September. The same remark applies to most of the Lupines, which if sown too early, I have found invariably to rot in the ground.

The border having been dug, and, if possible manured with some well rotted stable dung, must be levelled and raked where the Annuals are to be sown. I prefer to sow the seeds, at least those sown in May or June and also at later periods, if the locality lies low and wet, on the surface of the border, covering them slightly with finely sieved soil; this covering must never be too thick,—three times the thickness of the seed will generally be found sufficient. *Many failures of perfectly good seeds may arise from deep sowing, which retards or even prevents germination altogether.*

An experienced nurseryman on the Continent, reports the following result of an experiment made with deep and shallow sowing. A number of perfect seeds of Rye grass (*Lolium perenne*), merely covered with soil, came all up after 5 days; if covered with 1 inch of soil, 7-8 had germinated after 12 days; 7-8 appeared after 18 days if 2 inches deep covered; 21 days elapsed with 3 inches covering, and only $\frac{1}{4}$ of the seeds sown came up; 4 inches covering allowed 3-8 of the seeds to grow after 22 days; only 1-8 of the number sown grew after 23 days, if the seed had been buried 6 inches deep. If strong growing seeds like those of the Rye grass suffered so much from deep sowing, what will be the consequences if very fine seeds are placed too deep below the surface?

The seeds of Annuals, except those of a tall shrubby habit, as for instance the *Helianthus*, *Martynia*, &c., are generally thinly sown in circular patches of about 12 inches diameter, the label indicating the species being placed on the side nearest the walk; care should always be taken to sow all taller growing kinds farthest away from it, and dwarf sorts nearer the edges. In about a fortnight most of the seeds sown will show above ground; the seedlings should be thinned out where they come up too thickly, leaving from 6 to 12 plants only in each patch. Some kinds as Stocks, Balsams, Larkspurs, and several others, may be transplanted, although this practice cannot be recommended as generally applicable, as the plants thus treated will often fail altogether, or fail at least to flower with perfection. Transplanting should only be done in rainy weather, and watering the plants which have been removed will be necessary for some time after. All weeds growing between or around the Annuals must be carefully removed, the top soil should likewise be loosened occasionally. Some few of the climbing sorts as *Ipomæa*, etc., should receive sticks to support them.

All seeds of Annuals sown in spring (August and September), I prefer to place below the surface of the border, (except in low and wet localities). I remove therefore the soil, which of course has been dug and otherwise prepared with the hand, so as to form a depression like a plate, varying from $\frac{1}{4}$ to 1 inch according to the size of the seed; the seed is sown in this place and covered in the usual way, but so as not to fill the depression altogether. The seedlings must

be treated like those of former sowings. Asters, Stocks, Larkspurs, Balsams, *Portulacas*, *Browallia*, Cockscorns, etc., are well adapted for forming groups of themselves, they ought then to be sown in rows about 12 inches apart, the plants in the rows to be thinned out, so as to leave from 6 to 9 inches between them. If sown in June, the first three named above, will flower freely in December and January; those last mentioned should not be sown before September. For raising seed of Annuals, some of each kind ought to be sown on some place not exposed to view, as many of them are but little ornamental after their flowering season is over. Crosses between the different varieties and species are easily obtained; it will therefore be necessary to separate similar kinds as much as possible, if the sorts are to be kept pure.

H.

Notices of Books, &c.

"THE SILKWORM."

Its advantages, and how it can be introduced into Australia."—NEVERY.

THE value of any pamphlet which has for its aim the introduction of a new branch of industry into a young Colony is incalculable; and the one before us now, although not entering into the practical part of Silkworm Education, as their breeding is technically termed, yet clearly proves the advisability of turning our attention to some such pursuit, as may be valuable when others fail; the author considers that most of our new Agriculturists being short of capital will hasten to grow the quickest produce, in order to obtain the quickest return, and as the market gets overstocked with the ordinary cultures, and the price at which they can be disposed of becomes disastrously low, others must be experimented on, which may improve not only the condition of the farmer, but of the Colony, by enabling us to have something besides gold to exchange with other countries.

The Silkworm is undoubtedly one new branch of Agricultural industry, which might be easily and profitably imported into our Colony, and to give an idea of its importance we may mention, that in France the item of Silk in all its different branches is one-sixth of her commercial transactions. England also imports 10,000,000 lbs. annually.

That the Mulberry will grow here, and that rapidly, is well known, and also the Castor oil plant (*Ricinus palma Christi*) on which feeds a new silkworm lately introduced into Europe;—there are surely amongst the thousands of Chinese in this country, men who understand the process of feeding and rearing the worm, and manipulating the silk; and when combined with farming, the children of Agriculturists might be profitably employed in attending to one process or the other. Mons. Nevery has given a tabulated statement of the costs and profits of a Silkworm Company in France. We wish he had also given an approximate calculation of the expenses in this country. One thing he desires should be remembered, that the main labour of Silkworm Education does not occupy more than two or three months in the year, and these too when other pursuits, as farming, would not require attention. Let us recommend this to the serious attention of our readers!

Wheat and Oats.

THE Undersigned are prepared to receive Grain on Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.



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Map of the Country, with all other information, at the Office of

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HAS £1500 to Lend, in sums of £300, on approved securities.

TUESDAY, 19th FEBRUARY, at 1 o'clock,

At the Homestead, Lindisfern,

By order of the Executrix of T. M. Hammond, Esq.,
Deceased.

GEORGE WRIGHT

Is instructed to sell by auction, at the Station,

THE whole of the HOUSEHOLD FURNITURE and Effects

Farm and Station Implements

Bullocks, Steers, Heifers.

Draft and Stock Horses

ENTIRE HORSE.

WELL BRED BULL.

Also, the well known handsome Horse,

"SUNBEAM,"

(own brother to Rifleman, sire Emerald); he is a sound and stylish horse, a first-class steeplechaser, well adapted for the Volunteer Mounted Rifles.

THE

Geelong and Western District
COMMERCIAL & GENERAL

DIRECTORY,

TO BE PUBLISHED BY

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Early in 1861,

Will be supplied to Subscribers only. Names received by the Publishers; also, by Messrs. Franks & Jackson, Lee, (late Brown), and G. Mercer.

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There is nothing particularly novel in this pamphlet, but the writer states that he will be happy to reply to any person seeking information about Silkworm industry, on application to him (postage stamps enclosed for reply) at Yarraberg, Richmond.

Correspondence.

HINTS ON PLANTING.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—The period or season of the year is fast approaching when planting should be attended to, and a hint or two with regard to Ornamental Planting may be of service to some of your readers, who are intending to beautify their lawns and pleasure grounds, with some of those beautiful trees which are now available for the purposes of Decorative Gardening.

In planting Trees for decorative effect, it is necessary besides studying their future size and characteristics, to combine with it a judicious choice of position, and this must be regulated in a great measure, by the different points of view from which it is desirable the plants should be seen. The small proprietor who adorns his pleasure garden with a few favourites, will most likely be desirous of seeing them from the windows of his house, and should therefore distribute them about in such a manner that whilst forming an ornament to the house and grounds, they may not at a future time shut out the view of surrounding scenery; in fact, the principal aim out to be so to distribute them either in groups, or single specimens, that they may appear to be blended with it, and partake of its character; and anything like a continuous line should be avoided from the principal points of view. How little this has been attended to here is demonstrated on all hands. The laying out and planting of the grounds surrounding the mansions of some of the wealthy residents in the neighbourhood of our chief towns appear to have been carried out without any regard to the correct principles of taste in gardening, and without reference to the future and further development of the materials used for decorative purposes. We have the means, in the shape of some of the finest varieties of trees that ever gladdened the eye, and for which, could they be made to grow in the open air in England, the English Landscape Gardener would give anything, for making our pleasure grounds scenes of the most enchanting character; and yet we will not properly use them. It appears to me that it ought to be a leading idea to get as many points of view from which interesting specimens of trees or little peeps of scenery may be seen; and in this view of the subject, that the disposition of the walks through grounds of any extent is of equal importance to the proper arrangement of the trees themselves, and they should be so arranged as to disclose new features at every step. Generally speaking, we are most struck with and pleased by those little happy combinations of fairy like scenes which the eye is capable of taking in at once, and has not its attention attracted by unlimited extent or a multitude of objects. These little combinations cannot be produced by the aid of large trees alone, and there is therefore necessity for the introduction of an undergrowth of shrubs, the disposition and arrangement of which afford many means of producing a great variety of pleasing combinations, to do which with effect we must take nature as our guide.

Formality is, of all things, the most to be avoided, and therefore large beds of shrubs, with formal borders or edges, are entirely out of place, turf should in all cases run completely under the branches. In the disposition of the outlines, there are few cases in which a straight or continuous line is desirable;

on the contrary, indentations and projections cause variety, and create effect. The introduction of Climbing Roses, the Jessamines, and Passion flowers, and other similar forms of "nature's resembling" beauty, amongst the statlier forms of the Pine tribe and the Wattle, Cassuaina, and the like, would add to the effect, but they must not be "cribbed and cramped" by the pruning knife, or trained to poles or sticks, as we so frequently see them.

I have thrown these hints together more for the purpose of awakening attention to this subject, and if they obtain your approval for insertion in your valuable monthly, I may return to the subject.

BETULA.

Botanical and Zoological Gardens, Melbourne.

THE advantages which every quarter of the globe derives from these Gardens is at once apparent, as we peruse the very interesting annual Report, which the director, Dr. Ferdinand Mueller, has with much kindness furnished to us. The Botanic Gardens of Kew, Algeria, Berlin, Boston, Bremen, Copenhagen, Edinburgh, Hamburg, Madras, Mauritius, Petersburg, St. Jago, India, Vienna, with many others which we cannot find space to record, have not only furnished plants and seeds to the Melbourne Gardens, but reciprocal exchanges have been made with these, and maintained and extended with others.

In the past year, the almost incredible number of 51,920 packets of seeds, besides 31,455 plants, such as seedling Pines, Elms, Poplars, have been distributed, and 36,474 cuttings supplied, chiefly to the public reserves and Gardens of Victoria. Most of the old roads and tracks in the Reserve have been obliterated, new or restored ones taking their place. Several thousand plants, rare or new, have been transferred from the nursery to the flower borders, thereby increasing the floral treasures of the Garden. South African and West Australian Shrubs, the majority of which being exceedingly gay and ornamental, are found particularly desirable in resisting the trying effects of hot winds, and Dr. Mueller hopes that after this year the Yan Yean pipes will enable a thorough system of irrigation to be carried out throughout the grounds.

The New Zealand Flax has been planted to a considerable extent along the Yarra, and lagoons, to be available for copious supplies over all districts of the Colony, since probably no fibre-plant is entitled to greater attention, not alone from its remarkable facility of growth, and its ornamental appearance, but also that it furnishes a fibre almost as strong as silk, and it has another recommendation, that it may be grown in such swampy or inundated localities as are not suitable for any other culture.

We watch with interest, Dr. Mueller's aim to establish natural hedges in his garden, to ascertain which are best adapted for enclosing farms and gardens, and species are being experimented on, such as prickly *Acacias* and *Hakeas*, the Osage Orange, Hawthorn, Cape Broom, South African *Ceanothus*, Whin, Prickly Pear, &c. Our Horticultural Improvement Societies lately established in Melbourne and Geelong, might do good service, and reciprocate these efforts for their advantage, by collecting the result of experiments in various localities.

During the past year, many plants of interest and utility have been introduced into the Gardens, as the Bread-fruit tree from the Feejee Islands; the Madagascar Lace Plant from the Mauritius; the Canadian Blackberry, &c. Through the generosity of the Governor of Hong Kong, a large quantity of Tea seeds have also been sent for distribution.

A variety of carefully named fruit trees, for the greater part a donation from the Messrs. Seidel, of the Ceres Nursery, of dye, medicinal, and fibre plants, vines, grasses, forage plants, are being subjected to experiments, and will afford to visitors another source of information.

We are pleased to notice that the first wing of a building for a Botanical Museum, has been erected, wherein we may hope to see, when sufficiently dry, a large collection of dried plants of woods, plants, Carpological specimens, to augment which, should be the aim of all our Horticultural friends. There too is space for an Herbarium of 160,000 Botanical specimens, and aided by Dr. Mueller's beautifully illustrated "Flora of Victoria," the first part of which the learned author shortly promises to us, the Botanist will be laying up day by day stores of useful information on our native plants.

For much interesting information on the travels of the Government Botanist during the past year, we regret our space compels us to refer to the Report itself.

We have reason, as Victorians, to be proud of the progress Botanical knowledge is making amongst us, and we have to thank for it, the earnest and enthusiastic gentleman who devotes so much of his time and means to the elucidation of our native Flora. May he long live to enjoy the fruit of his labors.

Societies.

Horticultural Improvement Association.

The first monthly meeting took place at the Mechanics' Institute, Geelong, on Wednesday, the 23rd ultimo, and was well attended by the practical and amateur Gardeners of the district, some fifty in number.

A letter having been read from Charles Sladen, Esq., regretting that the distance from town at which he resided, would prevent his acceptance of the office of President, Alfred Douglass, Esq., was unanimously elected as President of the Association.

The Hon. Secretary read a letter from Mr. McMillan, Secretary to the "Victorian Gardeners Society," stating that that Society would be happy to co-operate with the "Horticultural Improvement Association," and to receive as Candidates for Membership, or Corresponding or Visiting Members, any gentlemen whose names may be submitted for that purpose.

The Secretary was requested to acknowledge, with thanks, the receipt of the above communication; and to inform Mr. McMillan that the Association had much pleasure in appointing as Corresponding Members all the office bearers of the "Victorian Gardeners Mutual Improvement Society."

Nineteen new members were elected, and the following gentlemen were unanimously elected as Corresponding Members:—Dr. Ferdinand Mueller, Government Botanist;

Mr. Fitzallan, Botanical Collector in the late expedition to the Estuary of the Burdekin; and R. Marnock, Esq., Regents Park Botanical Gardens, London.

The Hon. Secretary then delivered the following inaugural address:—

Gentlemen,—It is usual at opening meetings of such Societies as that we have assembled together to inaugurate this evening, that some brief outline of the objects of the Society be given,—the means whereby such objects may be successfully carried out, together with any matters which may suggest themselves as likely to tend to progressiveness. The value of such a Society, or the value of the pursuits it is intended to encourage, may be briefly stated in the words of the author of the "Journal of a Naturalist." "The cultivation of Flowers is, of all the amusements of mankind, the one to be selected and approved as the most innocent in itself, and most perfectly devoid of injury or annoyance to others; the enjoyment is not only conducive to health and peace of mind, but probably more good-will have arisen, and friendships been formed by the intercourse and communication connected with this pursuit, than from any other whatsoever. The pleasures of the Horticulturist are harmless and pure; a streak, a tint, a shade, becomes his triumph, which, though often obtained by chance, are secured alone by morning care, by evening caution, and by the vigilance of days; an employ, which in its various grades, excludes neither the opulent nor the indigent, and teeming with boundless variety, affords an unceasing excitement to emulation, without contention or ill-will."

Seldom, I think, more particularly in this district, has any Society commenced with more brilliant prospects, for although circulars calling the first meeting were issued only to some few known to the projectors, some twenty in number, yet every one attended, and at the second meeting to frame the rules, upwards of forty, principally practical men, enrolled themselves as members of the Society! We may fairly presume that each one of these forty members will have some two or three friends to introduce, so that we may conclude that we shall start with nearly one hundred members.

And why is there such enthusiasm on the subject? Simply because men are beginning to learn that the old narrow-minded idea of keeping everything to themselves is not the way to go ahead,—that if any advancement is to be made, it must be by associating one with another, by opening up freely to each other their experiences and discoveries, and where one person is deficient in knowledge, letting him profit by the trials of those who have been longer in this variable climate. We have no works here, as at home, to guide us,—the seasons are trying enough as you all know, many much to your cost I fear; the greater reason then that you should be united and assist each other; it is the key-stone to success!

In addition to this frequent associating together of the members, it is deemed advisable not only that they should bring such plants as may be of general interest, but that each monthly meeting should be set apart for a competitive exhibition of such plants as may be more especially belonging to it. One month *Dahlias*; another, *Bulbs*; another, *Calceol-*

arias, or *Gloxinias*, and so on; then we may hope to see really good flowers, which less frequent exhibitions miss entirely; then the merits and demerits of each exhibit will be fully and temperately discussed. Who therefore can doubt that much good must accrue from it?

That the establishment of a Horticultural Improvement Society can, as has been hinted, in any way prove injurious to the "Geelong and Western District Agricultural and Horticultural Society," now for so many years in existence, I should be sorry to believe for one moment, nor do I think there is any one of our members, who has not the most earnest wish and desire that by our exertions, and the stimulus given to Horticulture by our meetings, the future Exhibitions of that Society may be made second to none in Victoria. Amateurs, many of whom now hold back, fearing they may be outdone by others with greater experience, may come amongst us, and see for themselves their chances of success, or obtain information for the more successful cultivation of their favorite plants.

I am scarcely now in a position to state what arrangement will be made by the Managing Committee for forthcoming Exhibitions; but I do trust that no money prizes will be offered; if it is the spirit of gambling which induces a man to exhibit, or to get this edge to one flower, that form to another, far better that he leaves us at once, for to such a man, as a very agreeable writer on Horticulture has written—"Flowers bear somewhat the same relation as the beauties of an Oriental slave market do to the trader in flesh and blood." We must have a higher standard amongst us,—our aim must be a real pure love of science, and a desire to confer by Art, if possible, a higher beauty on nature. "The man who has grown a flower for the pleasure that employment gave him, may wish he had succeeded in eclipsing his competitors, but if he is himself thrown into the shade, he is still repaid for all his care; but a man who cultivates for the sake of a prize, has lost, if not rewarded, the only thing which gave a stimulus to his energies."

I hope that none of our friends will be deterred from reading occasional papers, from an impression that they must necessarily be very long or very learned,—half a dozen lines accompanying a new or rare plant or fruit, describing its peculiarity, the particular treatment which it needs, the various plans which the Exhibitor has tried for its successful cultivation, their success or failure, and so on. Those with greater ability than others will now and then favour us with Essays; we do not want fine writing, but we want good sound ideas on Horticultural matters by men who know what they are writing about.

It may not be practicable as yet to have any paper especially connected with the Society, but we have the means through the "Agricultural and Horticultural Gazette," which has been so many years in existence in Geelong, of circulating papers amongst the members, and of recording our proceedings in a connected form.

I see no reason why we should not at once form the nucleus of a Library, by purchasing a few good books of reference, such as a late edition of the *Hortus Britannicus*, and for periodicals we need some such as that which Mr. Thomas Moore is now editing, with figures and descriptions of all the new Florists' flowers,

and the "Gardeners' Chronicle." This Library may be increased by contributions from the members, and already the proprietors of the "Agricultural and Horticultural Gazette," have with much liberality presented a copy of the last two volumes of that valuable periodical (the two first being out of print), and doubtless others will, ere long, follow their example. This Library should be under the control of a sub-Committee, and some good system adopted for circulating the various works amongst the members, who in the comparatively leisurable season of winter, may make themselves acquainted with a host of things which will be beneficial to them hereafter, such as the nature of soils, manures, vegetable organisation, or structural Botany. And so valuable do I deem an acquaintance with Vegetable physiology to the practical Horticulturist, that I would strongly urge upon the Society the policy of offering some small Annual prizes for the person who can pass the best competitive examination on such subjects as may be laid down by the Committee.

"Before a man," remarks the author of the "Amateur Gardener's Year Book," "is competent to perform surgical operations on the human frame, or to attempt to heal its various diseases, it is necessary that he should be intimately acquainted with the structure of the organised being on which he is required to act. By previous education he becomes familiar with the osseous, muscular, and nervous systems, as far as a minute analysis can unfold their nature. These are investigated, first as inanimate substances, that their composition and relative situations in the body may be ascertained, and they are then contemplated as a whole, that the conditions may be examined, on which they become the dwelling of the mysterious principle of life. It is rather remarkable, that while the physiology of animals and plants is so nearly related, principles should be recognised in relation to the one, which are almost universally slighted with regard to the other. This could be accounted for if vegetation were never in a morbid state, so as to require the adoption of healing measures, for then, however curious and interesting the study of the structure of the plants might be, it would not lead to practical benefit. But this is so far from being the case, that more than one-half of the skill of the Gardener is demanded to keep his collections in a state of health, and to restore them from sickness. Unless, therefore, Horticulturists are themselves acquainted with the internal economy of vegetable productions, they act the same part as quacks in medical matters; they give a dose or cut off a limb with a facile reliance on chance, leaving to the *vis medicatrix nature* to accomplish what their ignorance leaves undone."

And now having briefly described what I conceive to be the objects and intentions of the Society, I will take up no more of your time, further than earnestly to hope that you will not relax in your endeavours to make it permanently successful; many similar undertakings commenced as brilliantly as this, have after a short career, and as soon as the novelty had worn off, been neglected, the members become lukewarm, the meetings are all ill attended, and ere long cease altogether. I trust this may not be the fate of this Society, but that with your aid it may soon

be the means of diffusing that good practical Horticultural knowledge which is so much needed through that part of the Colony which the Society embraces.

Mr. John Davison exhibited *Dendrobium undulatum*, and a new *Hoya*, from the Burdekin; and an interesting letter was read from Mr. Fitzallan on the plants of that district.

The Secretary laid upon the table an interesting Essay by Dr. Mueller on the plants discovered in the recent Expedition to the Burdekin; and also a large and beautiful collection of plants from King George's Sound.

Mr. Mitchell exhibited "Prime Minister" Fuschia; Mr. Thomas Adcock some very fine seedling Rhubarb, and a handsome basket of Dahlias; Mr. Miles, Prize-taker Peas, and a stand of seedling Pansies; Mr. McCurl, *Streptocarpus Rexii*.

Mr. Boycell gave notice that at the next meeting, on 20th February, he would read a paper on the "Treatment of Peaches."

Horticultural Society of Victoria.

At the monthly Meeting of Committee on the 6th instant, the Hon. T. H. Power, M.L.C., in the chair, the report of the Committee of Superintendence for the Horticultural and Experimental Gardens, was read and adopted.

The Hon. Secretary reported that the marking out and survey of the Experimental Garden, under the superintendence of Alfred Purchas, Esq., was nearly completed; and it was resolved that tenders for fencing, and clearing all trees in line of fence, be immediately called for. A Sub-Committee of Management was appointed to make the requisite arrangements for the next exhibition, on Saturday, 9th March.

Victorian Gardeners' Mutual Improvement Society.

The Annual Meeting of this Society, took place on Monday the 21st ultimo, at which the report of the Committee was read, from which we make the following extracts:—

"Since the latter part of December, 1859, when at its first meeting, the Society consisted of 15 members, it has attained to the strength of 105 ordinary, besides 2 corresponding members.

It has been found that there are many advantages accruing to practical and amateur Gardeners, from the opportunities afforded by a mutual interchange of opinion upon horticultural practice at the monthly meetings. The exhibits placed on the table at their Meetings during the year were highly interesting, and show evidence of great improvement. Your Committee refer especially to the fine collections of Roses, Hollyhocks, Pansies, and Oranges. By such means a useful purpose is effected, in calling public attention to valuable acquisitions in connection with the profession, which otherwise might receive but little attention.

Eight papers and essays have been read, and an Exhibition, at which, although the prizes offered consisted merely of honorary certificates, the Committee were gratified at the zeal and good-will evinced by the exhibitors generally.

Your Committee refer with pleasure to a communication received on the 13th of December last, from the Gardeners in the neighbourhood of Geelong, stating that they were desirous of forming a Society similar to the "Victorian Gardeners' Society," and requesting a copy of the rules of this Society.

In conclusion, your Committee venture to express their opinion that although during the brief period of the Society's existence, great benefits have been derived by the members from attendance at the

monthly Meetings, the Society is only now entering on the threshold of still greater and more extended practical utility and advantage to all interested in the science and practice of horticulture."

The reading of a paper by the President, on "*Cultivation in Victoria*," was postponed until the next ordinary meeting of the Society. Mr. Barton of St. Hilliers, exhibited seedling Apricots; Mr. Ferguson an excellent crimson seedling Hollyhock, and two seedling Gladiolus; Mr. G. Handyside sent a collection of Dahlias, and the President a specimen of *Ceratochloa unioloides*, a grass which promises, from its capability of resisting extreme heat, to become invaluable as a fodder plant in this colony.

Geelong & Western District Agricultural and Horticultural Society.

The sixth annual meeting of this Society was held on the 5th instant; Alexander Mackenzie, J.P., occupying the chair. The Secretary read the report of the year's proceedings, from which we abridge the following particulars:

The Committee have considerable pleasure in stating that the progress of the Society has been onward; they had found contrary to their anticipations that the public as well as the exhibitors appreciated the extra show, which was held in compliance with the wishes of several gentlemen interested in horticultural pursuits, on the 26th October last, it was decidedly a success.

The exhibition of farm produce, fruits, wines, &c., which was held on the 2nd of March last, was a decided improvement upon former years; a much larger number of exhibits being entered, many of them were brought from greater distances than formerly, as well as being fully supported by farmers and others in the vicinity, the exhibits of wheat, oats, and other agricultural productions were of a superior description, proving that a healthful spirit of competition was being pretty extensively infused amongst the farmers of this district.

The Committee have expended nearly £500 in extending the accommodation in the yards of the Society for stock of all kinds, and were convinced that they were now in such a state of efficacy as may at least compare with any other exhibition grounds in the colony; other improvements have been suggested, which will be carried out as soon as the funds admit.

The committee have to notice that although the treasurer's statement shows a considerable balance in hand yet from the large outlay on stalls, for horses and cattle, and pens for sheep, already alluded to during the year, the whole of the sum will be more than absorbed by the prizes that are now due to successful competitors at former exhibitions, and therefore it is earnestly urged upon all who have the agricultural interests of this district at heart to encourage the society by a large increase to the number of its members.

The subject of ploughing matches has again had a large share of the attention of the committee. In the month of June last, the committee resolved to offer £15 to each, for matches that might be got up in seven different districts and with a view to encourage a proper zeal in these districts, laid it down as a rule that the sum allocated would only be given to those local committees who collected the sum of £30, and it is gratifying to record that six districts were able to claim and obtained the sum thus offered by your society.

The Committee consider it due to Daniel Bunce, Esq., of the Botanical Gardens, to record their appreciation of the great interest that gentlemen has taken in endeavouring to make the Horticultural Exhibitions more attractive, by the handsome designs and large collections of rare and other plants he has sent, without entering upon or interfering with the list of competitors, and they therefore tender him their warmest thanks.

During the last twelve months four exhibitions have been held, but the Committee have very grave doubts as to the propriety of holding any exhibition in the month of January in future, because not only does it interfere very much with the harvest operations, but comes too near the spring and autumn exhibitions, and involves a large additional expenditure of the society's funds without any adequate remuneration.

The financial statement showed £374 at the credit of the society; at the same time it needs the warm support of everyone in this district interested in the progress of Agriculture or Horticulture, and we sincerely hope this will be awarded to it.

Western District Pastoral Society.

A meeting of this Society was held at Skipton on the 29th ultimo; the President, Colin Campbell, Esq., occupying the chair.

The secretary read a letter from S. L. Currie, Esq., suggesting that the society offer £300, in three prizes, for the five best merino rams, and the five best merino ewes, to be given as follows:—£200 the first prize, £25 for the second, £10 for the third, and the balance of the £300 to be devoted to expenses. Mr. Currie offered £25 towards the amount, to be doubled on certain conditions. It was resolved that a show be held at Mortlake, for agricultural produce and agricultural stock, and that the sum of £150 be appropriated from the funds of the society for such show; and further—"That this committee having considered Mr. Currie's proposition, is of opinion that such an arrangement should be encouraged by obtaining the subscriptions of breeders and persons connected with wool, and will be prepared to recommend to a general meeting to give an adequate subscription to this object.

Stripping Machines.

A trial of Stripping Machines, under the auspices of the Ballarat Agricultural Society, took place on the 7th instant, in a field of Talavera wheat, rather light but well headed, on the farm of Mr. McCallum, of Burrumbeet. The trial was for machines to which prizes had been awarded at the late Agricultural Show, and the Agricultural Society offered two additional prizes of £10 and £5, open for competition to all machines, whether exhibited previously or otherwise. The Stripping Machines were entered as follows:—

1. Mr. McCallum's, entered by Mr. George Smith; maker, Mr. Mellor, Adelaide, three horse machine.
2. Mr. Donald Bantock, owner; maker, Mr. Mellor, Adelaide, three horse machine.
3. Messrs. A. C. Kerr and Co., owners; maker, Mr. Carmichael, Learmonth, four horse machine.
4. Mr. Mackay, owner; maker, Mr. Carmichael, Learmonth, four horse machine.

One of the machines manufactured by the latter had conspicuously painted thereon the word "*Victoria*," no doubt to distinguish it from its competitors made in Adelaide. All the machines, with the exception of Mr. McCallum's, started at 20 minutes to one o'clock, and the latter about eight minutes after that time. The extent of ground allotted to each machine was two acres, and after a short time had elapsed, the action and work of the Adelaide machines was perceptibly superior to the others. They stripped the corn cleaner and did their work remarkably well; the lightness of the crop being decidedly in their favour. The local machines were deficient in this respect, and did their work rather slovenly, and it was evident that the crop was too light for them. The whole of the machines lost much grain, especially those manufactured by Carmichael; but the real question with the farmer is, would the amount saved in expenses by these

machines compensate him for the grain lost? On this point we heard a multiplicity of opinions expressed, so that when farmers differ on matters which intimately concern themselves, it would be rather difficult for others to come to a satisfactory conclusion. The next objection which we have heard urged against these machines is, that their use leads to the burning of the long stubble which they leave behind them, as they merely nip off the ear of corn, and the farmer is forced as it were to get rid of the straw in the manner described, which decidedly is most objectionable at any time or season of the year; besides, the advantages to be derived from burning stubble is very questionable, and some of our best agriculturists are decidedly opposed to it. On the other hand, it should be borne in mind that there is an antipathy in the minds of some people to machines generally, and Stripping Machines in particular. However, they have their advantages, especially when labor is scarce and workmen obstreperous, as they not only cut the corn, but thrash it also, and these are matters which, no doubt, the farmer weighs in his mind before he comes to the conclusion of purchasing one.

Mr. Bantock's machine had been awarded the prize at the late Agricultural Show, subject to trial, and the other machines were entered for the extra prizes. The former machine appeared from the working of the horses to be rather heavy to draught, but this was ascribed to a particular portion of the fittings not being in proper position. The others were easily enough horsed. The first that completed its work was Kerr's machine, which finished by three o'clock; the two Adelaide ones about 15 minutes after, and Mackay's much later, on account, as alleged, of having more than the two acres of ground to traverse. The Judges were remarkably assiduous before they gave their decision, but it was apparent to every person on the field that the first prize would be awarded to Mr. McCallum's Adelaide machine, and there was no difficulty in coming to a decision respecting the second prize. About four o'clock the judges announced their decision as follows:—First prize, of £10 (extra), Mr. McCallum's machine; maker, Mr. Mellor, Adelaide. Second prize, of £5 and the Agricultural Society's silver medal, Mr. Donald Bantock's machine; maker, Mr. Mellor. With regard to the machine entered by Mr. Kerr, the judges remarked "that had the crop been heavier, this machine would have appeared to better advantage, and as it was it did its work in a quarter of an hour less than the other machines." In reference to Mr. Mackay's machine, they stated "that it did its work admirably, with the exception of the inside wheel, which crushed down a few heads of corn in its rounds.

The decisions of the judges gave marked satisfaction.—*Weekly Star*.

CHRISTMAS SHOWS.

Baker-street has so completely swallowed up every other interest during the past week that anything but fat stock notes seem quite out of season. York had a good Christmas Show on Saturday; but, as a proof of the eccentric nature of the competition at such carnivals, Mr. Richard Booth's heifer, Soldier's Bride, which is still under two years old, and likely to be the standing menace of Waraby against "the Gunter Twins," till July, beat everything in the yard. The once great Queen of the Isles—a helpless subject as far as breeding is concerned—was among them, and only second in her class. A butcher has bought her from Mr. Booth, but subject to her going to the fat show at Darlington, which took place yesterday. We hear that the white bull calf by Hopewell, from Campfollower, is bound to the West Razen pastures. Diamond, who second to the Queen of the Isles at Chester, and seemed at one time equally hopeless, is shortly to calve to Priam. Among the recent Towneley calves are Frederick's Faithful, own sister to Frederick's Fidelity, and

Royal Butterfly Ninth, from Young Brampton Rose. Aylesby Garland has had her ninth calf, which has been christened British Baronet in honour of her venerable Fawsley breeder. Mr. Majoribank's has a sister to Harkaway, the winner in the bull calf class at The Royal. The latter unfortunately died lately, and will leave no calves, of which however there is a very promising fall at Bushey by Great Mogul. Mr. George Turner's Devon cows, Bountiful and Beeswing (a Royal Cork and West of England first-prize winner last year) have produced Prince Frederick heifer calves which have been respectively named Cornucopia and Beeswax.

It is rather a remarkable fact in connection with Mr. Mordridge's Smithfield heifer that she is the first that gentleman ever fed for Smithfield. She is by the Duke of Sussex, who went to Australia, and a great granddaughter of Mr. James Quartley's ten-year-old Napoleon, whose stock have had most wondrous success this year. A steer from her dam, Young Spot, won for his Royal Highness the Prince Consort, at Smithfield, two winters ago. The Smithfield Club have adopted Mr. Torr's proposition to make the office of President an annual one, with the proviso that no one may be re-elected within three years, and, as was fully anticipated, the first choice has fallen on Lord Berners. About three hundred pounds more is to be added to the prize list next year, which will make one thousand five hundred pounds in all. It seems from a tabular statement before us, that in 1857-59 some 95 Devons, 77 Herefords, 125 short-horns were entered, and the wider Islington space will no doubt bring accessions. The Royal have had their half yearly meeting, and Mr. Samuel Sydney moved the adoption of the report. As regards the arrangement of their prizes, there is not much revision; but a second prize of £5 is added both in the bull-calf and heifer-calf classes. Mountain sheep are to have a local class, in which the Lonks and Herdwicks will, no doubt, "feed fat their ancient grudge." The Society has 4952 members, £12,000 funded capital, and £1,472 in the shape of subscription arrears.

The members of the Smithfield Club had their annual dinner on Wednesday, under the Presidency of Earl Berners; but owing to the recent death of the lamented Duke of Richmond, the songs were omitted. The Chairman delivered a practical speech on agriculture, and Mr. Torr confined himself more especially to the breeding of stock. Mr. Fisher Hobbs proposed "The Vice-Presidents," and Mr. C. Barnett "The Noble Chairman;" and Mr. Gibbs, the Secretary, received his usual and well-merited welcome. Mr. Tuxford, of the *Mark Lane Express*, (in which the late Mr. Shaw pressed the idea of such a Society upon the landlords and farmers years before Sir Robert Peel "had the high honour," as he said at Cambridge, "to be present at its birth," was appropriately called upon to propose the toast of "The Royal Agricultural Society," and exhorted the followers of Earl Spencer to keep his Lordship's example steadily in view, and let the fiat of the Society continue to be a sign manual of excellence, both on stock and implements, not only to Great Britain and her Colonies, but to the whole civilised world. Mr. Robert Smith, the well-known breeder of Exmoor cobs, and the writer of the excellent stock report for the Society in 1858-59, responded. Mr. Sydney proposed the labourer, but no butcher was present to reply when the toast was given. The Club balance at their bankers' is £2,598.

The Crystal Palace have held a most successful Poultry exhibition. Of game fowls there were 190 pens, and of Hamburgs, 129. The China Silk Cochins were rather a novelty; they are white in their plumage, but their skin is jet black, and their bones, when cooked, share the same hue. The Sebastopol geese were smaller and uglier than the English; and the finest pair of rabbit ears in the 86 pens measured 22 inches.

THE BIRMINGHAM CATTLE AND POULTRY SHOW.

THE gold medallists in the Cattle classes at Bingley Hall have been so fully dwelt on both this week and last that we need devote no more space to their demerits and virtues. In the higher test of Baker-street they have been tried, and, in a measure found wanting; but London has, as yet, no great court of appeal against the fowl and and pigeon decisions of the Midlands. In fact, this part of the Birmingham Show is, after all, the real kernel of its success. "Onwards" has been the motto of the poultry fanciers, and they have fully acted up to it this year. The game classes showed a marked improvement, and the Dorkings were never in greater glory, with the exception of the silver greys, which are to have no white feathers under their tails, and no brown feathers in their wings next year. This lack of orthodoxy in plumage was especially observable in the silver-grey cocks. Spanish fowls were under the line both in point of feather and condition; but Cochins, Chinas, Bramah Pootras, Polish (which have been like their countrymen, in adversity so long,) and Hamburgs were all well represented. A pen of two Dorking hens, which got a second prize, only weighed 19lb., and a cock and two hen turkeys reached 61 lb., while the first class pen of the grey and mottled geese exceeded 71 lb. The first prize pen of ducks scaled 31 lb., and the duck novelties were a pair of white-eyed Bahamas, belonging to Lady Lilian Paulet, which won a first prize. Strong exception was taken to the ruling of the judges, as regards the lacing of the wings of the silver-pencilled Hamburgs above a year old.

In the pigeon department the trumpeters could well speak for themselves, and the pouters were said to exceed their usual length by an inch. Sixteen regular varieties were exhibited, and we hear that one of them was believed to have undergone the process of dying, and was promptly rejected by the judged in consequence.

The Committee of the Royal Irish Agricultural Society have decided to give up the system of secret judging, and to admit the public round the ring, as is the practice at the Yorkshire meeting, and nearly everywhere in the North of England.

EXPERIMENTAL FARM.—At a recent meeting of the managing committee of the Experimental Farm, it was resolved that a certain quantity of sugar beet should be planted, for the purpose of proving the practicability or otherwise of obtaining a paying return from that crop in the form of sugar. That a large number of tea plants be at once planted with a similar object, and that pigs, which have not hitherto been kept on the farm, be at once purchased, and for the future, form part of the regular stock. It was also resolved that all surplus stock be disposed of annually by auction.

CULTIVATION OF THE SILKWORM.—At the general meeting of the board of management of the Queen's Orphan Schools, held on 5th February, Mr. Stutzer introduced the question of cultivating the silkworm at the institution, which he thought was practicable, with the labour of the children, at a nominal expense. He thought about five acres of the ground could be set apart for the growth of mulberry trees, and he gave some particulars as to the climate, productiveness and the return that might be anticipated. One cwt. of mulberry leaves would produce 1lb of silk, the commercial value of which was £2 5s, and net return of raw silk produced would be £120 per acre, so that five acres planted out with mulberry trees, as he proposed, would, after about three years, give a return of £600 a year, the necessary outlay being not more than £20. The proposition was received with satisfaction, and the Colonial Secretary and Mr. Stutzer were appointed to confer with Mr. Martelli

upon the matter—Mr. Henty remarking that it would be a good thing to demonstrate to the colony what could be done.—*Launceston Examiner*.

HOLLOWAY'S OINTMENT AND PILLS.—The victims of scrofula, eruptions, cancers, tumors, bad legs, &c., throughout the universe, look to the Ointment as the only element of cure. Sufferers from indigestion, bilious disorders, affections of the bowels, &c., have an equally firm reliance on the Pills. In order to be sure you have the genuine article, see that the water-mark "Holloway, London," is on every leaf of the book of directions enclosing each pot or box.

To Subscribers.

THE present number commences the fifth volume of the "Gazette," and in order to meet the regulations of the Post Office, it will be necessary that in the ensuing year we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.

With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

The next No. will be published on 12th March.

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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 3.

MARCH 12, 1861.

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HORTICULTURAL CHEMISTRY.

FRUITS AND FLOWERS.

As we are still, and are likely to be, much in the dark with respect to the recondite processes going on in the interior of plants, we must take advantage of such proximate hints, as the advances in knowledge may suggest, both in our theoretical investigations, and in the experiments we may try. I gave a very striking instance of this last year, from M. Biot's experiments in the *Annales des Sciences Naturelles*, on the ripening of grain and fruits, which he investigated by the polarization of light,—a much more delicate test than either chemistry or histology could furnish, with the play of affinities, or the revelations of the microscope.

The experiments, which in the two preceding papers in the "Gazette," I have, with diffidence ventured to propose, offer nothing so tangible even as M. Biot's profound researches, though, I am rather sanguine as to the results, provided that sufficient care be taken with the preliminary processes. I may now grope my way a little farther into those mysterious matters, as connected with the production of new sorts, and the improvement of sorts already in favour.

It appears to me, then, that the chemical elements, whatever they may be, which make up the petals of a rose or a tulip, or the pulp of a pear or a peach, if supplied in excess or profusion to the root-tips of seedlings, experimented on for improvement, will most certainly effect a change in the particular flower, or the particular fruit, thus nourished. For such purposes, it does not seem to be at all necessary for us to know the precise chemical elements required, whether these be acid or alkaline, solid or gaseous; it is enough to be certain that they must exist in the petals, or in the pulps. Now it appears very clearly, that when thus supplied in conjunction with guano diffused in water, or even with the ordinary soil, and the usual plant-food contained in it, the petals or the pulps, receiving such nutriment in excess, will have their usual growth promoted in excess, just as a goose crammed with gobbets of fat, from the beginning of August, will be in extra condition for the spit at Michaelmas.

Again, the seeds, when well ripened, either those of flowers or of fruits,—such as the pips

Horticultural Improvement Association:

THE next MONTHLY MEETING will take place at the Mechanics' Institution, on WEDNESDAY, the 20TH MARCH, at 7 o'clock P.M.
Mr. Batson will read a paper on "The Cultivation of Annuals in Victoria."
Intending Members are invited to attend.

SAMUEL HANNAFORD,
Honorary Secretary.

Port Phillip Farmers' Society.

THE ANNUAL EXHIBITION

OF
GRAIN, PRODUCE, GRAPES, WINES, &c., will be held in the Exhibition Building, Melbourne, on
WEDNESDAY, MARCH 27TH.

Prize Lists, and every necessary information, may be obtained on application to the undersigned.

Exhibits will be, by special permission, conveyed free to and from the Exhibition along the Government Lines of Railway.

Exhibitors desirous of availing themselves of the privilege of free Railway transit, must signify their intention, and make their Entries on or before the 20th March.

ARTHUR J. C. SKILLING,
Secretary.

Western District Pastoral & Agricultural Society.

The above Society will hold an

EXHIBITION

OF
AGRICULTURAL PRODUCE, HORSES, CATTLE, POULTRY, DAIRY PRODUCE, &c., at MORTLAKE, on the 27th March next.

For particulars as to Prizes, &c., apply to the Secretary.

THOMAS SHAW, JUNR.,
Hon. Secretary, Darlington.

The Geelong and Western District AGRICULTURAL AND HORTICULTURAL SOCIETY'S

ANNUAL EXHIBITION

OF
FARM PRODUCE, FRUITS, FLOWERS, VEGETABLES, &c.
Will be held on the Society's Grounds,

RYRIE STREET EAST,
On Thursday, the 31st March, 1861.

ALL Entries of Exhibits must be made with the Secretary on or before Tuesday, the 19th March, at 4 P.M.
Prize Schedules, and all information, may be obtained from the Secretary, at his Office, 81, Moorabool-street, where Members' Tickets, £1 ls. each, for 1861, may also be obtained.

JAMES CAMPBELL,
18, Moorabool-street, 14th Feb., 1861. Secretary.

of apples or oranges, the stones of grapes, and the kernels of nuts and cherry stones, or the grains of Balsams or of Heartsease, contain in a concentrated form, all the Chemical elements of the whole plant, or at least the capability of taking up from the soil and the air, all the Chemical elements required by the whole plant. It should seem to follow accordingly, that if we were to collect a quantity of such grains or pips of the particular sorts we wish to improve, beat them into a mass to destroy their vitality, or rot them in moisture, and therewith manure the roots, as previously suggested, we should produce results such as could not well have been anticipated. In order to do this most effectually,—I mean to have these concentrated chemical elements all used without waste,—it would be indispensable to rear the experimental seedlings in small pots, to be transferred to larger, when advanced in growth, and afterwards planted out into rich nursery beds.

In the case of Fruits, the several sorts may be brought to bear the second or third year, by grafting them on bearing stocks, as first proposed by the celebrated Belgian Chemist, Van Mons, of Louvain, who in this way could produce very numerous varieties of garden fruits in the course of a few seasons. By this method we might, in no long period of years, find out new varieties of the vine, more adapted to our soil and climate, than any of the sorts introduced here from Europe.

In the above suggestions, I have not taken HYBRIDISING into account, to which I shall advert on another opportunity.

J. R.

MEMS. FOR OUR LADY READERS.

Hollyhock leaves make a beautiful dye. Gather the faded leaves of the dark-maroon colored Hollyhock, single or double flowers; place a large handful into about a quart of water, with a piece of alum the size of a filbert—let it simmer down to about the quantity—dip ribbons, cashmere, woollens, or silks into the liquid, and you will obtain the fashionable and elegant tint called "mauve." Ribbons should be wrapped in a piece of white calico, or linen, so as to dry gradually and evenly. The shade of color may be lessened by adding water if the tint should be considered too high.

J. M.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

STRAWBERRIES. (Ballaarat).—We have departed from our usual custom, and replied to your note as requested. Tea Seed may be sown now, in seed-pans or pots, in a light sandy loam, and covered half an inch deep. They may be kept warm and moist till they are up—not so wet as to rot them; and as soon as they are two or three inches high, they should be potted off into small pots. This care is necessary for them at present, till we become a little more acquainted with how they like this country. We saw a number of plants in the Botanic Gardens, Melbourne, the other day.

MODEL FARM. (Nemo).—You will have seen that the Farm Committee have recommended great alterations in that "extensive toy," as you term it. But we question whether the present Manager possesses sufficient Horticultural knowledge to carry out the experiments suggested. Write and make your suggestions to the Board of Agriculture.

DUCHESSE D'ANGOULEME PEAR. (W. S., Melbourne).—This Pear is of the largest size, of a roundish oblate shape, and very uneven on its surface. The skin is of a dull yellow colour, covered with lines and freckles of russet. The stalk is very long, and inserted in a deep cavity. The flesh white; and when highly ripened, buttery and melting. But frequently, in England at all events, crisp, coarse grained, and sweet. We saw it misnamed at the Melbourne Show.

TRANSPLANTING FRUIT TREES. (F. B.).—You may begin to transplant as soon as the leaves begin to fall. Our rule is to plant in Autumn, when you can procure the best trees, and they are much more likely to succeed. You can get the Pears you mention. We saw thirty varieties in Melbourne the other day.

BULBS. (Young Gardener).—All kinds of Bulbs may be planted towards the end of March, and at intervals up to the end of May; and this refers to Ranunculus, Anemones, Narcissus, Crocus, Hyacinths, Gladiolus, &c. You may therefore safely plant some of your Ranunculus roots this month.

OUR AGRICULTURAL SERVANTS.

As there is an intention expressed on the part of the Colonial government, to introduce a healthy stream of Immigration to the colony once more, we demand of the agriculturists to rise in a body, as one man, and to insist upon the selection of none but useful servants of both sexes, so far as their share of the expected immigrants goes; and to implore of the various representatives of the agricultural constituencies, to be true to their trust, and not to allow nepotism, or any kind of favoritism to influence the appointment of the selectors of our future servants. They must see that honest, sober, intelligent, and well qualified men alone, are appointed to this position of trust; so that we shall have no more loose London girls, or half decayed male paupers sent out, at the expense of the country. As to Mechanics, they cannot be thought of; their day has come and gone, and a sorry day it was for the colony, when our mechanical servants were allowed to rule the labour markets, and to dictate their terms of remuneration to the capitalist. The government sees now the fatal policy it has pursued for years,—of expending millions in railways, and other works, and incurring enormous public

Horticultural Improvement Association.

THE First Exhibition of this Association was held at the Mechanics' Institute, on the 27th February, when the following Prizes were awarded:—

CLASS A.—POT GROWN PLANTS IN FLOWER.

1. Collection of six stove or greenhouse Plants.
First prize, Hon. J. F. Strachan.
2. Collection of three stove or greenhouse Plants.
First prize, Hon. J. F. Strachan.
Second prize, William Wyeth.
3. Single specimen stove or greenhouse Plant.
First prize, Hon. J. F. Strachan.
Second " Alfred Douglass, Esq.
4. Three Gloxinias, varieties.
First prize, Alfred Douglass, Esq.
5. Three Achimenes,
First prize, Alfred Douglass, Esq.
6. Six Fuschias, three light, three dark.
Second prize, William Wyeth.
12. Best specimen Fuschia, dark.
Second prize, William Wyeth.
13. Best specimen Fuschia.
Second prize, Henry King.
15. Best three Pelargoniums, fancy or French varieties.
Second prize, Hon. J. F. Strachan.
16. Best specimen Pelargonium.
Second prize, Hon. J. F. Strachan.
19. Best single specimen Geranium.
Second prize, Hon. J. F. Strachan.
20. Best three Petunias.
Second prize, Hon. J. F. Strachan.
21. Best single specimen Petunia.
Second prize, J. Calvert, Esq.
25. Three Balsams.
First prize, J. Calvert, Esq.; second, Thomas Cain.
26. Three Cockscombs.
Second prize, Hon. J. F. Strachan.

CLASS B.—POT GROWN PLANTS, IN OR OUT OF FLOWER.

31. Collection of Ferns.
First prize, Miss Stretch.
32. Best specimen Fern.
First prize, A. S. Robertson, Esq.
34. Best six plants, for beauty of foliage.
First prize, J. Calvert, Esq.
Second " Hon. J. F. Strachan.
36. Best New or Rare plant.
First prize, Hon. J. F. Strachan.
37. Collection of Native plants.
Considered deserving especial commendation, Thomas Adcock, Kardinia Nursery.

CLASS C.—CUT FLOWERS.

44. Best three Roses, varieties.
Second prize, Thomas Jeffrey, Newtown Hotel.
45. Best single specimen Rose.
Second prize, Thomas Jeffrey, Newtown Hotel.
46. Six China Asters, varieties.
First prize, Hon. J. F. Strachan.
47. Three China Asters, varieties.
First prize, Hon. J. F. Strachan.
Second " Thomas Cain, Belmont.
49. Three French Marigolds, varieties.
First prize, J. Calvert, Esq.
50. Three Zinnias.
Second prize, A. S. Robertson, Esq.
51. Six Hollyhocks, varieties.
Second prize, Thomas Cain.
54. Collection of Dianthus.
Second prize, Thomas Cain.
57. Six Verbenas, distinct varieties, in trusses.
First prize, J. Buckley, Esq.
Second " D. W. Collins, Esq.
58. Three Verbenas, distinct varieties, in trusses.
Second prize, Sidney Powney, Newtown.
59. Collection of Antirrhinums.
First prize, W. Batson, Herne Hill.
Second " Thomas Cain.
61. Collection of Cut Flowers.
First prize, William Skinner.
Second " A. S. Robertson, Esq.
62. Design in Cut Flowers.
Second prize, W. Batson.
63. Bouquet for Table.
First prize, J. Durran, gardener to J. Buckley, Esq.
Second " S. Levien.
64. Bouquet for Hand.
Second prize, D. Carstairs, gardener to Thomas Powell, Esq.
65. Model Flower Garden.
First prize, Thomas Cain; second, D. Carstairs.

EXTRAS.

- Group of Wax Flowers.
First prize, Mrs. Middlemiss; second, Mr. Batson.
- China Asters.
Second prize, Hon. J. F. Strachan.
- Collection Verbenas.
A first prize, Sydney Powney.
- Collection Pot Plants.
A second prize, J. Calvert, Esq.
- Two Cut Flowers. A first prize, J. Buckley, Esq.
- Virginian Tobacco. A first prize, Sydney Powney.
- Collection Roses.
Smith & Adamson, Melbourne, honorary certificate.
- Large collection of Greenhouse Plants, exhibited by D. Bunce, Esq., honorary certificate.

debts, just to pander to a false cry of destitution raised by the tyrant working classes. In perpetrating this fatal error, they withdrew nearly all assistance from the Agriculturist; for ploughmen and rustic labourers of every grade, would not remain at farm wages, when the allure-ment of sixty or seventy shillings a-week was held out to them for the most ordinary kind of labouring work, and the result is, that our agricultural advancement has been fettered and retarded to an almost incredible extent.

Agricultural wages have been out of all proportion to the rents of land, and the prices of agricultural produce, and though the agricultural interest has assumed much larger proportions within the last few years, husbandry has been generally carried on, on a system that is ruinous to the land and to the landlord. The best and richest lands have been selected in the various districts, and the abominable system of "working out" is being prosecuted nearly everywhere; a reasonable profit may be derived from this system for a few years, but it cannot last long; land, like a horse, may be worked to death and become worthless. While then we assert our belief in farming being made a profitable, if not a lucrative speculation, even under existing circumstances, we are free to admit that the present price of agricultural labour is much too high, and must be reduced. The Agricultural interest of every country should be the wealthiest and the strongest,—this, ours never can be with wages at their present figure. The prosperity of the country depends mainly on the science of husbandry being cultivated to a boundless limit, and we must use every effort in our power, to foster and encourage its extension.

The Gold Fields have now lost much of their glittering attraction; fortunes are not now made in chance holes in shallow sinking, and the miner who has nothing but his health and strength to depend on, may for weeks and months, perhaps the whole year round, be hard set to provide himself with the necessaries of life. Capital is being introduced on the gold-fields,—labor is falling to a proper and fair rate of remuneration, and the wild excitement, and huge nuggets of a few years back, are transformed into stern hard labour, and regular weekly wages. There is now no

inducement of any consequence, to draw men away from their regular employments, and still less to induce them to break their agreements and the laws; and it is a most fitting time to supply that labour, of which we stand so much in need, and for the lack of which, many of our capitalists are seeking new homes to invest their money in, while our fields and vineyards are languishing or going to decay.

It will scarcely be necessary here to describe the class of men hanging about the labour offices, or travelling through the country, from which the farmer as to select servants at a pinch; for everyone connected with agricultural affairs must know that, generally speaking, they are a very bad lot, —insolent and over-bearing in their demands, and far too highly paid for the little exercise they take in the shape of work,—they may be pronounced to be no better than a sad necessity. Bad as they are, their services must be occasionally enlisted at harvest time, and to this season of the year, the steadier class of them look forward with great interest as their own harvest. They know exactly the position of the agriculturists, and demand exorbitant wages; if they don't succeed in obtaining what they ask, they lounge and loaf about until another applicant presents himself, and so on. One pound, and one pound five shillings per week with abundant rations, is what these persons consider fair wages; just about five times as much as good men of their class get in England. The wages of the regular farm servants may be said to be from one to two hundred per cent. higher here than at home, while all the necessities of life are, in the aggregate, cheaper than in Britain; and consequently, in spite of all that may be urged by stump orators, and petty popularity-hunting politicians, it would be very much to the advantage of many of the steady farm servants of Britain, to transfer themselves to Victoria.

The cost of transporting them hither, is a question not worth consideration, because if the people are selected by competent and honest judges, they will be cheap at any price. The number required is the first consideration; and the second is the best way of providing for them, on or before their arrival here. We do not think if the servants selected are civil, clean, and

CLASS D.—FRUIT.

66. Three Bunches Black or Red Grapes, varieties.
First prize, Hon. James Henty, Melbourne.
Second „ Alexander Mackenzie, Belmont.
67. Best Bunch Black or Red Grapes.
First prize, Henry Cordell; second, A. Mackenzie.
68. Three Bunches White Grapes.
First prize, A. Mackenzie; second, Henry Cordell.
69. Best Bunch White Grapes.
First prize, Mrs. J. G. Ware, Camperdown.
Second „ Alexander Mackenzie.
70. Twenty-four Peaches, four varieties.
First prize, John Boyce, Teesdale.
71. Twelve Peaches, three varieties.
First prize, Samuel Hassell, Ryansford.
73. Twenty-four Plums, four varieties.
First prize, Samuel Hassell, Ryansford.
74. Twelve Plums, three varieties.
First prize, Hon. James Henty, Melbourne.
75. Best dish Damsons, two quarts.
First prize, A. Mackenzie; second, John Boyce.
76. Best dish French Prunes, one quart.
First prize, Hon. James Henty, Melbourne.
80. Best dish Mulberries.
First prize, Mrs. Timms; second, S. Levien.
86. Twelve Pears, dessert, three varieties.
First prize, J. Buckley, Esq.; second, S. Levien.
88. Twelve Apples, three varieties.
First prize, J. Buckley, Esq.; second, Charles Ives.
90. Twelve Apples, baking, three varieties.
First prize, A. S. Robertson, Esq.; second, S. Levien.
96. Three Water Melons.
First prize, Arthur Douse, Willow Bank.
98. Collection of Fruit.
First prize, Henry King.

EXTRAS.

- Three Large Bunches Grapes.
First prize, Mrs. C. Dixon, Belmont.
Specimen Green Lemon.
First prize, Mrs. Timms.
- Three Seedling Peaches.
First prize, H. Cordell.
- Collection Apples.
Thomas Adcock, honorary certificate.
- Collection Peaches.
Thomas Adcock, honorary certificate.
- Collection Fruit.
Hon. J. Henty, honorary certificate.
- Green Lemons.
First prize, D. C. Macarthur, Esq.
- Oranges.
First prize, D. C. Macarthur, Esq.

CLASS E.—VEGETABLES.

99. Braco of Cucumbers.
First prize, Samuel Hassell; second, Arthur Douse.
100. Six Sticks of Rhubarb.
First prize, Thomas Powell; second, Henry King.
101. Three Sticks Celery,—Red.
First prize, Thomas Powell.
102. Three Sticks Celery,—White.
First prize, Henry King.
103. Two Quarts of Peas.
First prize, Samuel Hassell.
104. Two Quarts of French Beans.
First prize, J. Buckley, Esq.; second, J. Calvert, Esq.
106. Six Carrots.
First prize, Henry Adcock, Kardinia.
Second „ Henry King.
107. Six Parsnips.
First prize, Thomas Powell; second, Arthur Douse.
108. Six Turnips,—White.
First prize, Thomas Powell; second, J. Buckley, Esq.
109. Six Turnips,—Yellow.
First prize, Thomas Powell.
110. Three Beet,—Red.
First prize, Mrs. Timms.
111. Two Heads Silver Beet.
First prize, Charles Ives.
112. Twenty-four Onions, four varieties.
First prize, Thomas Cain.
113. Twelve Onions, two varieties.
First prize, Thomas Cain.
114. Three lbs. Potatoes,—Kidney.
First prize, Thomas Cain; second, Thomas Powell.
115. Three lbs. Potatoes,—Round.
First prize, S. Powney.
Second „ Mrs. J. G. Ware, Camperdown.
116. Three Heads Cabbage.
First prize, Thomas Powell.
117. Three Heads Cauliflower, or Broccoli.
First prize, Thomas Powell.
118. Three Lettuces. First prize, Miss Stretch.
119. Three Pumpkins.
First prize, Mrs. Charles Dixon, Belmont.
Second „ Thomas Powell.
120. Three Gourds. First prize, Thomas Cain.
121. Three Vegetable Marrows.
First prize, Charles Ives; second, Arthur Douse.
122. Dish of Tomatoes.
First prize, Mrs. J. G. Ware, Camperdown.
124. Collection of Vegetables. First prize, Arthur Douse.
125. Collection of Herbs. First prize, Charles Ives.

EXTRAS.

- Dish of Spinach. Thomas Cain, honorary certificate.
Basket Pink-eyed Potatoes. J. J. Miles, honorable mention.
Collection of Vegetables. Charles Wyatt, honorary certificate.

industrious people, that it matters a great deal from what country they are sent, but in order to prevent any little national jealousy, it would be better perhaps to select them from the countries of England, Ireland, and Scotland, in proportion to the population of each. From the continental wine-growing countries, we must procure our vigneron, and with them perhaps a few of other classes of rural labourers.

As to the number required, that could be nearly approximated to by the Government advertising for the names of all farmers who felt inclined to engage such servants with the number each would take, but that is not a matter of great importance; it would regulate itself before too many were sent out. The most important consideration is how to dispose of them. In our opinion arrangements should be made for securing their services for a certain period, say three or five years, and at the same time employers should be bound to receive and keep them at fair Colonial wages, for a like specified period, unless some gross misconduct on one side or the other should warrant the magistrate in annulling the bargain. No deception of any kind must be used to entice them to our shores—there has been too much of that, and too much falsehood used already to keep them away from us—they should know, if possible, exactly what their position will be as regards wages, work, and housing.

At all events, whatever may be decided on as to these matters, this one thing is certain, the agricultural districts must be supplied with agricultural labourers, (married and single,) and female servants. These persons must be of the right stamp and age, selected by competent judges from agricultural communities; and knowing their necessities, and the opportunity now afforded to relieve them, we once more demand of the agriculturists to be on the alert, and see that the Immigration money is not squandered away as heretofore.

THE TEA PLANT.

In our last number we promised some few remarks on the Cultivation and Treatment of this Plant, seeds of which, through the kindness of Dr. Mueller, Director of the Botanic Gardens in Melbourne, who has lately received them from China, we have been enabled to distribute to such of our friends as were desirous of experimenting on it; and most

sincerely do we hope, before long, to hear of its successful cultivation, and of the existence of some small Tea Plantations in various parts of our Colony.

Several varieties of this Plant are known, but as the management of all is alike, it is unnecessary to enumerate them here; they are evergreen shrubs, growing only three to four feet in height; and as their branches grow nearly perpendicularly, and do not spread towards the sides, each Plant needs but a small space; they are therefore planted in rows only four feet apart. Mr. Fortune states, that in order to economise space, he sometimes saw them planted so close as to form almost a hedge. The Chinese prefer the slopes of hill sides for their Tea Plantations, as the Tea Plant thrives best on lands which, though not dry and parched up, are yet well drained; low and wet lying situations are quite unsuitable for its cultivation. ("Report on Tea Plantations.") He sometimes observed plantations on level lands, but he specially remarks, that they were always above the surrounding water courses, and so protected from inundations and free from stagnant water. A moderately rich, but always free and open soil, mixed with a quantity of sand and fragments of rock, is the most suitable for the Plant. A gravelly or stony subsoil, capable of carrying off all surplus water, is highly desirable. Artificial drainage might be found necessary where the latter is wanting. The ground should be trenched from eighteen to twenty-four inches deep.

Tea Plants are chiefly propagated from seeds; these should be sown rather thickly in spring on nursery beds, on which seedlings may remain for one year, and after that time, planted on the fields as stated above. The transplanting should be done when the weather is moist and warm. April or May appears to be a good season for this process here, for, if left until our spring, the young plants would scarcely have time to get established before the fierce hot winds might destroy a great number. In lifting the seedlings from the seed-beds, some care is required to prevent the strong tap-root from being damaged; if possible, they ought to be lifted with a ball of earth adhering to the roots.

Weeds being as injurious to the Tea Plants as to all others, they ought to be always kept free of them; digging or hoeing between the rows for keeping the soil loose will also be required. Pruning is scarcely ever necessary.

In the second year after being planted out, a first crop of leaves may be gathered; for about twelve years longer, the Plants will continue to be productive; after that time, having annually been robbed of part of their leaves, they become so weakened, that they are

Colac Agricultural Society.

The Colac Agricultural Society's

ANNUAL EXHIBITION

OF

FARM & DAIRY PRODUCE, FRUITS, VEGETABLES, POULTRY, AGRICULTURAL IMPLEMENTS AND MACHINERY,

Will take place on the Society's Ground, Colac, on THURSDAY, APRIL 11th, 1861,

When the following Prizes will be offered for competition:

(Intending Exhibitors will please peruse carefully the Rules regarding Entries, &c., as these will be strictly enforced; and observe and specify the Class and Number under which their purpose exhibiting.)

I.—AGRICULTURAL AND DAIRY PRODUCE.

- Class 1. *a* For the best sample of Wheat, grown by the exhibitor, three bags of four bushels each, £3.
b For the second best of this class, £1 10s.
2. *a* For the best sample of Oats, grown by the exhibitor, three bags, £3.
b For the second best of this class, £1 10s.
3. For the best 3 cwt. of Potatoes, grown by the exhibitor, £1.
4. For the best 4 bushels of Grey Peas, £1.
5. For the best 2 cwt. of Hay, £1.
6. For the best 20 lbs. of Onions, of one kind, grown by the exhibitors, £1.
7. For the best $\frac{1}{2}$ cwt. of Silesian Beet, grown by the exhibitor, £1.
8. For the best $\frac{1}{2}$ cwt. of Carrots, grown by the exhibitor, £1.
9. For the best $\frac{1}{2}$ cwt. of Turnips, grown by the exhibitor, £1.
10. For the best $\frac{1}{2}$ cwt. of Swedes, grown by the exhibitor, £1.
11. For the best Salted Butter, keg or jar, not less than 14 lbs., manufacture of exhibitor, £1.
12. For the best Fresh Butter, 4 lbs., to be made up in lbs., manufacture of exhibitor, £1.
13. For the best two Colonial Cheeses, manufacture of exhibitor, £1.
14. For the best two Colonial Hams, manufacture of exhibitor, £1.
15. For the best side or sitch Colonial Bacon, manufacture of exhibitor, £1.

II.—POULTRY, &c.

- Class 1. For the best Spanish Cock and pair of Hens, £1.
2. For the best Dorking Cock and pair of Hens, £1.
3. For the best Game Cock and pair of Hens, £1.
4. For the best Cochins China Cock and pair of Hens, £1.
5. For the best of any other breed, Cock and pair of Hens, £1.
6. For the best Turkey Cock and pair of Hens, £1.
7. For the best Guinea Fowl Cock and pair of Hens, £1.
8. For the best Gander and pair of Geese, £1.
9. For the best Drake and pair of Ducks, £1.
10. For the best two dozen Eggs, £1.
11. For the best pair of Rabbits, £1.

III.—VEGETABLES, FRUITS, &c.

- Class 1. For the best collection of Garden Vegetables, grown by the exhibitor, £2.
2. For the best collection of Fruit, grown by the exhibitor, £1.
3. For the best collection of Melons, grown by the exhibitor, £1.
4. For the best 6 Cabbages, grown by the exhibitor, £1.
5. For the best 6 Cauliflowers, grown by exhibitor, £1.
6. For the best sample of Colonial Wines, grown by the exhibitor, £1.

IV.—IMPLEMENTS AND MACHINES.

- Class 1. For the best Steam Threshing Machine, not less than two competitors, £5.
2. For the best Plough of any kind, £1.
3. For the best pair of Harrows, £1.

REGULATIONS.

1. All exhibits must be the *bona fide* property of the exhibitor, and must have been in his possession for at least one month immediately preceding the Exhibition. Any infringement of this rule will disqualify from taking a prize.
2. All entries must be made in writing, and signed by or for the exhibitor, on or before Monday, 8th April, at the office of the Secretary, when a Ticket will be given stating the Class in which the entry is made, and the number of the entry,—which ticket the persons in charge of the articles for exhibition must bring with them, and produce at the gate; and no exhibit will be admitted into the Society's grounds unless such ticket be produced.
3. The Exhibition is open to all; but exhibitors not members, must pay an entrance fee of £1, which will also constitute membership for the current year.
4. No exhibit of Horticultural Produce shall occupy more than twelve superficial feet of space; any exhibit more or less than this will be disqualified.
5. Exhibitors, if called upon by the Committee, must give every information in their power relative to their respec-

removed and replaced by fresh Plants. In some plantations manure is applied occasionally. Three crops of leaves are obtained in the course of the year from each Plant; the first one is taken early in spring, when they are quite young, and not fully expanded. The better kinds of Tea only are manufactured of these.

The seeds of the Tea Plant are easily destroyed, if exposed to the changes of the atmosphere. To prevent this, they are packed between damp soil in baskets directly after being collected, and kept in this state till sowing time in the following spring.

For much interesting information on the Cultivation of the Tea Plant, we would refer our readers to the interesting works by Mr. Fortune, on "The Tea Countries," "Report on the Tea Plantations of Deyra, Kumaon and Gurhwal," and "Residence amongst the Chinese."

Cultivation of the Hollyhock.

The Hollyhock is one of the now numerous plants which of late years have received so much attention in its cultivation and improvement by florists in England, and if some of our forefathers were to visit us again, they would scarcely know the old favourite, for favourite it has been for a very long time, so great has been the success in raising new varieties and improving the quality and the brilliancy of colour of the flowers. And well does it deserve all the attention that can be bestowed upon it, for it is certainly one of our most beautiful late Summer and Autumn flower-garden plants. In this colony, particularly, it is useful, for by good cultivation and proper attention to times and seasons of planting, it may be had in bloom for many months of the year. In England, the most destructive enemy it has to cope with, is the winter's frost; here the enemy is the summer's heat, but we do not doubt that the skill of our gardeners will get over that difficulty here, as the other has been, to a great extent, got over in England, to aid this we offer a few hints on its culture.

To obtain new varieties, the Hollyhock like the Dahlia, must be raised from seed. And as it is not so easily imported from England as the Dahlia, raising from seed must occupy the attention of the florist for some time to come. A packet of the best seed can be obtained now from home in a few months, and as from the state of perfection to which some of the growers have got it, some of the seeds are likely to produce good flowers, it would be better to begin with English seeds, than to rear from year to year from the varieties we now have. We do not say that there are no good Hollyhocks in the colony, we only mean to say they are very scarce. Some seed may be sown in Autumn and some in late Spring, and thus we will have a lengthened season of flowering. The seed bed should be dug deep, and some well rotted manure added to the soil.

The seed should be sown in rows across the bed, so that each seed may be an inch or two apart. It should be covered about an inch deep, and the surface raked over. As the seeds come up, weeds will, of course, come with them, and must be kept down, for weeds on a seedling bed

are the greatest drawback to the progress of the plants. As soon as the plants are sufficiently advanced, they should be planted out into nursery beds four feet wide, with alleys eighteen inches wide between, to walk and work on. These beds should be prepared like the seed bed, and pretty liberally manured, or just as one would manure for a cabbage. The plants may be put out in the nursery beds, nine inches apart each way, in rows. In removing the plants from the seed bed, they should be raised up with a fork or trowel, for the roots would break if it was attempted to draw them up; and if the weather has been long dry, the ground should be well soaked with water, before the plants are removed. They may be planted with a dibble, but the hole should be made so that the roots when put in are not doubled up in any way. (We plant everything in this way with a trowel, as we have known many evils arise from dibble planting.) The plants should be watered when put in, and occasionally watered throughout the summer. The beds should have a coating of manure placed on the surface, to help to keep the bed moist. Towards the end of Summer, a great number of the plants will begin to bloom, and every single flower, and semi-double one, must be pulled out and thrown away the moment it expands. No plant producing flowers with thin petals should be saved, they are not up to the standard, and if left amongst better flowers, the seed on the latter would not be so good to go on improving from. It will be found, of course, that a great many of the plants will not be worth propagating from, and those that are, should be labelled, and their description noted in a book. The flower-stems should be supported by stakes for the sake of the seeds. The seeds should be removed as soon as they are brown, and as soon as they are gathered the stem should be cut down to within three inches of the ground. The earth should be stirred up with a fork, not to injure the roots; if it be dry weather, water should be given them after the flowering, and to induce them to throw out several heads to increase the stock from. Late in the autumn they may be dug up and parted according to the number of heads they have, and replanted either in the flower border or in beds, as the case may be. They should be labelled with a number, corresponding with a number in the seedling book, under which they are described, with all their peculiarities, and particularly that for which you selected or saved them. We would even advocate that the best sorts should be planted in beds where a kind of awning or shade could be put over them in bright hot days; in fact, to treat them, when grown for exhibition purposes, the same as Dahlias are treated.

In England, the Hollyhock is adopted everywhere as a favourite, and we have no doubt that it will become so here in time, but florists must be careful not to keep second-rate sorts. We would much rather destroy a whole collection, than risk spoiling good seed for the sake of a second-class plant. If there is a lacking of a good bold centre, the plant should be discarded. As we have before said, all thin petals should be weeded out; thin petals cannot retain a good form. Mr. Glenny in his "Properties," says, "if the flowers are not close on the stem they are useless; the bloom should form one solid pyramid, as it were, the flowers touching one another, spreading out rather wide, for the larger the base, and the smaller the point, the better. Whether the stem be three or six

tive exhibits; and should such information not be satisfactory in the opinion of the Committee, any prize awarded may be withheld.

6. Each exhibitor must place his exhibit in the proper class when directed, with the ticket received from the Secretary stating the class and the number in the class.
7. No exhibit will be received into the yards on any account whatsoever after Eight o'clock A.M., on the day of exhibition.
8. All persons intending to exhibit extra produce must intimate to the Secretary and describe the same, at least one clear day preceding the Show.
9. No Member can exhibit unless his subscription be paid up for the current year.
10. No exhibitor will be allowed to remain in charge of exhibits during the adjudication.
11. Any infringement of these rules will disqualify the exhibitor from taking a prize.
12. The Judges may award a second prize instead of a first one, or may withhold a prize altogether when there is only one exhibit, or when the exhibits are not considered worthy.
13. No Judge shall be an exhibitor in the department in which he is a Judge.
14. The decision of the Judges shall be final, and without appeal. Any protest against or complaint of irregularity in exhibition must be lodged with the Secretary within one hour after the opening of the exhibition for the consideration of the Judges.
15. No exhibit shall be removed from the Exhibition before 5 o'clock P.M., without written permission from the Secretary.
16. The Society will not be responsible for the exhibits.
17. Exhibitors may have any book or article of plate of the same value as the prize, by giving notice to the Secretary within three days after the Exhibition.
18. Members are entitled to two admission tickets, which can be obtained from the Secretary.
19. All exhibitors must conform to the rules and regulations, which will be strictly enforced by the Committee.

Prize Lists, and any other information, may be obtained at the office of the Secretary.

JOSEPH S. MISKIN,

Colac, March 12, 1861.

Secretary.

Wheat.

THE Undersigned are Purchasers of Wheat at Market Prices.

DALGETY, IBBOTSON & CO.

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GALVANIZED FENCING WIRE; Black Fencing Wire and Corn Sacks.

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Thus securing

A VAST SAVING TO THE PURCHASER.

Kauri Pine and Cedar, logs and boards
Deals and Oregon Pine, very long lengths
T. & G. Scotch 6 x 1, 3, 4, 1 in., and 1 1/2 in.
Doors and Sashes, in very great variety
Venetian Shutters, French Casements, &c.
Large stocks of Nails and Ironmongery
Turnery and Mantel Pieces, very cheap
Galvanized Corrugated Iron, Morewood's Tiles, &c. &c.
Skirtings, Architraves, Moulds,
And all kinds of JOINERS' WORK made on the premises.

Observe!

WRIGHT'S TIMBER YARDS,
Nearly opposite the Telegraph and Post Offices,
GREAT RYRIE STREET WEST.

feet high, the flowers should be much further from the stem at the bottom than they are at the top." As a matter of course, we cannot be quite so fastidious here for a time, as they are in England, as to the varieties they keep, but very inferior flowers should be discarded the instant they show themselves. If the plants are not dug up at once, the flower stem should be destroyed at any rate, for, by so doing, you prevent the spread of its fertilizing dust, and the few good ones you may have will therefore have a better chance of producing something better than themselves.

We have been speaking of the Hollyhock as strictly a florist's flower, but it is also a noble plant for flower borders or shrubberies. Planted in a line, a few feet from the edge of a straight path, it has a splendid effect; and, as it comes into flower later than many of our flower garden plants, we think it deserves every encouragement. For exhibiting, we think a portion of the stem should be shown, say, with five or six flowers on each. There are many opinions on this point, but the exhibition of a single flower is, in our opinion, scarcely a sufficient criterion of the quality of the plant, whatever it may be of the individual flower. However, let us increase the plants, and talk about the exhibiting at some future time.

The Adulteration of Food, &c., in Melbourne.

We had occasion in our volume lately concluded to make a few remarks on the adulteration of various articles of consumption, and to it we could not but attribute much of the prevalent unhealthiness of our population. Bread made of damaged flour already made up for the market by the addition of whitening and other similar compounds, cannot sustain life, as that which we obtain pure; and so of other things which form our staple food. Our attention has been directed to an article lately written for the *Australian Medical Journal*, by Mr. W. Sydney Gibbons, who, for many years past, has been laying by notes of his observations on articles of food manufactured in and about Melbourne. He states in the preamble to his paper, that he does not write to create a panic, nor to excite popular prejudices, which always run to extremes, but he desires to force the subject upon the attention of the Legislature, and also to show the public how it may do its share, not so much in detecting as preventing the evil.

Raspberry Jam, from Hobart Town, contaminated by copper to a deleterious extent, was discovered by Mr. Gibbons in 1852, but an audience to which he was lecturing about that time, treated it as only something very funny.

Most cordially do we echo Mr. Gibbons's remarks on the consumer, who, haggling for bargains, screws down the price, encouraging an unhealthy competition by unreasonable demands, and deals by preference with the unscrupulous traders, who find the means to supply him on his own terms by adulteration,—thus we have an addition of water to milk, plaster to flower, flour to mustard, chicory to coffee. We might fill a page if we dared.

Mr. Gibbons had been lecturing in one of the suburbs of Melbourne,—not then famous for the production of good bread,—on "The Chemistry of bread," and after discussing the various phenomena connected with nutrition, bread-making, &c., he proceeded to illustrate

the most familiar adulterations by actual experiment, and by citing cases, much to the annoyance of certain bakers of the neighbourhood, who "in an experience of twenty-seven years had never heard of *alum*;" another "had never seen a *potatoe*," and the very mention of "*plaster*," threw them into fits. But a gentleman in the crowd rose to quiet a very unseemly discussion, by telling the following, as Mr. Gibbons says, "*very pertinent*" anecdote. Let our readers, as we daresay his hearers have done, ponder on it:—"He had imported a cargo of whitening, an article in great demand among the makers of effervescing draughts, but unfortunately for him his shipment arrived in cold weather, and was stored at a cost almost beyond its then value. There it remained for some time, eating its head off in the store, for there was no hope of a rise until the next spring; when one day to his surprise and delight, the broker in whose hands it was placed, called and reported the profitable sale of the lot. "What on earth occasions the demand at this season, enquired the delighted vendor?" "*Flour's up, was the laconic reply.*"

Bread it is well known is adulterated to a great extent by the admixture of potatoes, and this we would not so much cavil at, but "the fraud here is the substitution of a less for a more nutritive article, and one too that holds a larger quantity of water.

Confectionery was found a fruitful source of disease; yellow poisonous chromate of lead, and many other most deleterious ingredients being employed.

Coffee appears to be more extensively adulterated than any other article; and to the query, "What is Coffee?" Mr. Gibbons suggests the reply,—"Coffee is a manufactured article, varying according to the products of the country in which it is made; in Melbourne it consists in part of the berry whose name it bears, and in great part of Gram, Maize, Peas, roasted Corn or Potatoes, and Chicory."

"True to the bargain-hunters, whom the adulterator never deserts, for they are his best friends, an article is offered, roasted, ground, labelled, and packed in neat tin canisters, which are given in, and the whole is sold at a less price than raw Coffee."

But it would encroach too much upon our spare space to follow Mr. Gibbons through all his interesting details, so we will merely add his concluding remarks, trusting that he will return early to the subject, which he has here treated with so much intelligence.

A few words in conclusion. Without intending to defend the traders who either adulterate or sophisticate our food, I must distinctly throw the blame upon the consumer, who is the cause. No one who goes out of his way to a cutting shop, or who endeavours to purchase an article at a less sum than it can remuneratively be produced for, has any right to complain of adulteration, nor is he entitled to raise a cry against sophistication, if he insists on an ideal standard of colour or texture. A manufacturer of genuine mustard, then almost the only one, tried for years to get his mustard into the English market, but was always at a disadvantage. It was of a dingy colour, whereas the sapient public would not be content with anything but bright yellow. Of course said public was accommodated by the help of starch and tumeric. And so it will be with everything else. If people set their minds on having coffee at ninepence per pound instead of eighteenpence grocers would be found to supply the article. We daily see fools gulled by announcements of "clearing

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out sale," at which, according to the statements of the salesmen, goods were sold below the wholesale costs, so that if the statement had a shadow of truth, it would pay any body in the trade to buy up the whole concern. Yet the shops are crowded, and the goods are sold, but they alone are not sold. It is the consumers that bring about this state of thing—they will have bargains, they will stickle unreasonably for a price—and even a trader, who persists in selling genuine articles, has every difficulty in making his way, and unless he be a capitalist very often goes to the wall, or falls from grace before he has had time to become understood by a sufficient number of customers to support him in his just dealing.

Correspondence.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—As I wish to draw attention to one or two of your late leading articles, I will head my remarks with the old adage, "That it is better to teach twenty what is good to be done, than to be one of the twenty to follow your own teaching." I think this is fully borne out by the advice given in your last, and preceding "Gazette." The maxims you have there laid down are principally good, but will you have the kindness to show how they can be carried out to a profit, for however well skilled the Farmer may be in his calling, he is not ambitious to spend his last shilling, and become a beggar for the sake of a little paltry popularity.

There have been some remarks going the rounds of the papers lately, showing the progress the farmers are making in the Ballarat district, by the importation of immense quantities of machinery, &c., thus attempting to show that good farming predominates here; but what is the fact? The enterprising spirit exhibited by many of our leading farmers in the adoption of improved implements, &c., and as far as in them lies, carrying out an improved system of tillage, is, I may say, almost completely frustrated by those who are expected to aid and assist in gathering in the crop; there are many of those men, beggars before harvest, living on the employer's bounty, but when their aid is required, you will find them wasting their time at the public house, or in roadside conferences, combining together for a rate of wages which has no limit; it is evident that no price will satisfy them, their object being to loiter about and waste their time, that the spoilage of the farmer's crop may induce him to give a rate of wages equal to their capricious views, so that three days' work will enable them to spend the remainder of the week carousing; thus the farmer is completely foiled in his progressive efforts, and the means which he would otherwise have at his command for the employment of labour, and other benevolent and charitable purposes, is absorbed in the extraordinary price levied to harvest his crop.

Is it to be expected that good farming can be carried out here, with labour four times greater, and produce but little in advance of English prices? Was the farmer generally to follow your advice, and insist on the execution of all their works in due time, I respectfully ask of you, to what price would labour rise? I would guarantee that a pound per day would not satisfy them, their ambition being to take advantage of the farmers' necessities, and the more they earned the more time they would require to spend those earnings at the public house, and to witness the sympathy of the press for the starving masses, none of whom will accept employment at the very best English rates for farm labourers; but the Government is requested to find them employment at a rate of wages we cannot afford to pay, merely to keep up the price of labour by artificial means. I have been told lately by a man in my employ that before he will accept less than a pound

a week and his rations, he will go to the diggings. Does this look like poverty and starvation, when men have such a fertile source to fall back on, that will secure them an equivalent to a pound a week and rations.

I do not complain of men honestly making the best they can of their labour, but I do complain most bitterly of the false reports of *want and destitution*, arising from sloth and dissipation, by a parcel of lazy louts, that, could we but drive them from our shores to the places of their birth, would be a great blessing to us; they will not work themselves, but do all they can to prejudice the minds of others, and set them against their employers, and those are the men, most of whom, I have no doubt, we have paid for importing.

It is stated by many of our Farmers that at the present rate of labour they cannot afford to make their straw into dung, or apply any manual labour to their stubbles; consequently all is burnt, by which means for the present time they are benefited, and can produce a balance-sheet in their favour. But what must be the after result? Go on a few years in this way, and the entire value of the land will not reinstate its lost fertility. It is truly grievous to witness our retrograde course; land now producing forty bushels of Wheat, and sixty bushels of Oats to the acre, will, in a few years, be brought down to about a quarter of that quantity, and still we see the papers boasting of our onward progress,—vain delusion, base deception. What large land owner in England would sell his estate for a pound or thirty shillings per acre, to parties who could lease it to others at from fifteen to twenty shillings per acre annual rental? Would he not, looking at his own interest, avail himself of the fifteen shillings per acre annual rental, securing to himself the purchase price every two years? but our Government generously gives away *our land* to make noblemen and princes of the few; and what is most astonishing, the multitude coincide with and support it, and are even still complaining that the price is too high; thus they foolishly consent to give away their own land, to bring an endless burden of taxation on themselves, which the rent of this land to the Crown should annually discharge. I contend, Mr. Editor, that it is in vain for you to write, or for Agricultural Societies to exhibit model systems of farming, if you cannot show that this model farming can be carried out profitably; and whilst labour continues to exercise that arbitrary influence it now does, I defy the most talented farmer in this colony to carry out the most approved system of English farming to a profit; consequently the exhausting system will be continued, and a profit secured by awful waste and destruction. It is said "wilful waste makes woeful want," and such practices will be carried out here, that posterity may curse us when in our graves, for the want of foresight, and a little more practical honesty.

Before I conclude, I must draw attention to what I consider an erroneous statement of yours, where you say, "Nothing can be more preposterous than to argue that any attention or time bestowed on the most frivolous savings on a farm can be misapplied." I contend, Mr. Editor, that all time is misapplied that does not repay its outlay, and to employ labour at eight shillings per day on work that yields a return of only four shillings, is folly and madness in the extreme. It is the very high rate of wages from which results such awful waste in our farming operations,—many thousands of pounds of human food is wasted annually from its yielding no profit in collection. Why is there no gleanings here, where frequently much more corn is left in the stubbles than in England—(this is the labourers free prerogative)—forsooth. If gleanings, or any of those works are to be done, it must be done at the farmer's expense, by labour at a pound a week and rations; and this is the lamentably starving position of the working man in this colony, and the ground upon

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FLOWER SEEDS, comprising nearly 400 varieties, and many novelties.

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T. A. respectfully invites the public to an inspection of his splendid Collection of DAHLIAS, now in full bloom. N.B.—The Nurseries are open every day, Sundays excepted.

BALLAARAT.

WE have much pleasure in intimating that MR. WILLIAM ELLIOTT, of the CRESWICK ROAD NURSERY, has become a Partner in the Nursery Business, and will take the active management of that department; and his well-selected Stock of Plants having been added to our own, we can now offer for Sale an Assortment unrivalled in the interior of the Colony.

The Elegant Greenhouse on the Main Road is now filled with beautiful Plants for Sale; and no exertion will be spared to keep up a supply of

Fruit Trees, Shrubs, and Ornamental Plants, suited to the wants of this rapidly improving district.

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MESSRS. B. & S. JOHNSON,

PRACTICAL SEED GROWERS, NURSERYMEN,
FLORISTS, &c.,

THOMAS TOWN, PRESTON.

which all emigration is to be stopped, lest those who are now really badly off in England should have the chance of bettering their condition.

Yours respectfully,

March 1, 1861.

JOHN BANKIN.

[Our correspondent surely did not suppose we meant that the highest priced labour should be employed in performing the easiest work. Mr. Bankin has had sufficient experience in colonial farming, we should think, to admit that there is much reckless waste on the best of our farms, but in general, the labour required to preserve that rigid economy we recommend, may be obtained at the hands of children—perhaps the farmer's own—or of cripples, whose wages would be very light compared with that of the pound a week gentry. The majority of the farmers unfortunately make a deal of extra work for themselves, in not stacking and securing their straw and other products in good time; and in allowing these to be scattered and partially wasted before any attempt is made to convert them to a profitable purpose. We confess to being much surprised at Mr. Bankin's views about converting the straw into manure, as he seems to think it cannot be done profitably; our experience, and that of other practical farmers, has proved that on moderately sized farms at least, husbandry is unprofitable without it,—that without the aid of sheep, pigs, or dairy cattle, more particularly the latter, farming will not pay. In our opinion, the higher the wages are, and consequently the greater the expense of the farm, the more necessity does there exist for that rigid economy Mr. Bankin seems to think impracticable.—Ed. Gazette.]

ACCLIMATIZATION OF PLANTS.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—The acclimatization of plants, as well as animals, is a subject well worthy of the attention of every well-wisher to the colony, and I am glad to hear that this forms a portion of the objects of the new society which has been started under such favourable auspices in Melbourne. In furtherance of the objects of the society, the aid of many colonists, hitherto but little acquainted with the subject, from the fact of their attention not having been directed to the introduction of new forms of the vegetable kingdom to countries where they may have previously been unknown, will be invoked; and, perhaps, you will allow me, as one having had some experience in such matters, to offer a few hints for the benefit, it may be, of some of your readers of this class. It is a well established fact in Vegetable Physiology, that all plants are peculiarly and specially adapted to the soil and climate they inhabit;—their organization is fitted to the conditions and circumstances they are born under. In therefore directing our attention to the acclimatization of any plant or plants, we must make ourselves acquainted, as far as is possible, with the circumstances that surround them in their native localities, and adapt our proceedings to the nature and constitution of the plant operated upon. Every region of the globe has its appropriate vegetation. There are vegetable forms adapted to every soil and climate, whether under the icy frigidities of the Arctic regions, or moist heat of the tropics. Some plants luxuriate under the influence of light and air; others prefer the shade; some grow on the sides or the summits of mountains; some in valleys, some in lakes, some in bogs. The physical circumstances by which each of these localities, in any one country, is characterized, are very different. Some have a greater or less elevation above the sea; others are characterized by more or less exposure to light, and by the nature of the soil; each and all of these circumstances influence the natural distribution of plants. But there are other agents which influence the distribution of plants—heat and cold; because each individual is so organised as to grow only within

certain limits of heat and cold. The condition of the atmosphere, as regards temperature and moisture; of the soil, as regards its composition; and of the situation, as regards altitude, exposure, and shelter: all influence the distribution and localities of plants. All plants being specially constituted to suit their native habitations, we at once perceive the necessity for paying attention to the principle circumstances which surround any plant we intend to introduce into a new country or locality. And we see the principles which must form the basis of our operations in our attempts at acclimatation. No power of man can alter the organic constitution of a plant so as to make it grow and flourish under circumstances opposite to those under which nature produced it, but, though we cannot alter their constitution, we can, by cultivation, exert a controlling power over its habits, and succeed by proper care and attention to the principles suggested above, in inducing many useful plants to accommodate themselves to a change of surrounding circumstances. But in all our operations we must be guided by the natural instincts, if I may use such a term, of the plants we wish to acclimatize.

This subject is a vast one, but these few hints may perhaps be of use, Mr. Editor, to some of your readers, and in the hope that they will be so, I am, &c.,

J. M.

Societies.

Horticultural Improvement Association.

THE Monthly meeting of this Society, held at the Mechanics' Institute, on the 20th ultimo, was numerous attended. John Davison, Esq., occupying the chair.

The Secretary read a letter from Alfred Douglass, Esq., approving of the objects of the Association, and accepting the office of President.

The gentlemen proposed at the last meeting as Members of the Society were duly elected.

Thirteen new members were proposed.

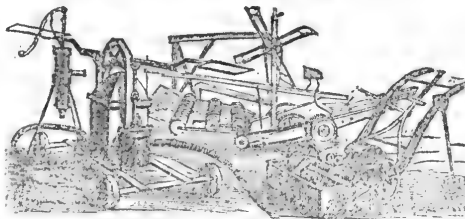
Mr. CONRAD BOYSELL, Gardener to Mrs. Timms, then read the following Paper on

"THE TREATMENT OF PEACHES:"

"Gentlemen,—I trust that you will excuse me if, from my want of a proper knowledge of the English language, and from my foreign accent, I fail to make myself so clearly understood by you as I would like. I have had considerable experience both in South Australia and Victoria, and from this experience I am led to believe that I may offer a few suggestions, with regard to the culture of the Peach, which may be useful to the members of this Society. At any rate, I trust this attempt of mine to break the ice will induce others to come forward, and record their views and experience for our edification and instruction, and if I only accomplish that object I shall be content.

"We all know how useful this tree is, and how, by proper cultivation, the quality and quantity of the fruit has been increased, and we aim at something better. Some try to attain this by pruning; some by highly manuring the roots; some say put it in light soil; some say heavy soil; some will prune to leave the tree quite open in the centre; some afraid to prune leave too much wood; a third will only prune every second or third year; a fourth will prune hard and manure, and so on, all trying to excel of course. My way, or rather the way I have been taught to treat the Peach, particularly in the Adelaide country, is, after the tree has reached the age of four or five years, and every year thereafter, to cut all young wood not absolutely wanted to increase the size of the tree, which is made during the previous season's growth, down to one woodbud from the old wood, and what wood I find unnecessary I cut away altogether. There will generally be two fruit buds, and a wood bud between them, nearest

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GEORGE WRIGHT

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the old wood, and if the wood be nice short-jointed stuff, as it ought to be, about an inch beyond these will be a woodbud, this is where I remove the young wood. I don't begin to prune before the last week in June, and having then completed the pruning, I manure my trees in the following manner:—after soaking rain in June, I dig a quantity of rotten manure in about the roots, and take two buckets of liquid night soil, deodorised by charcoal, and pour in afterwards to each tree; and every month after that till end of November, I give each tree a soaking of liquid manure, composed of one bucket of night soil to two buckets of water. In November, I lay a coating an inch or two thick, of half rotten manure on the surface of the soil, over the roots,—mulching I think it is called by Englishmen,—to protect the roots from the effects of our scorching hot winds and unclouded sun. I find that by this method, instead of having to throw out a lot of little rootlets to seek nourishment for the tree, the principal roots do the work, and convey the sap to the fruit.

"The night soil, as you are aware, contains ammonia, and ammonia is converted into nitrogen by the action of the roots, which is a most necessary element in the development of fruit and fruit trees, and we must try to get it for them somehow. By this system of treatment I have been able to produce what have been termed magnificent Peaches, as I am sure you would have said also if you had seen them, from trees that, previous to my adopting this method of pruning and manuring, seemed to be dying off. I will guarantee if my plan be tried, especially on failing trees, it will succeed, and that your trees will not be spoiled. I do not mean to say that so much manure is necessary on rich alluvial soils, but I refer to the majority of soils of this Colony, with a light top soil, and a hard uncultivated subsoil.

"Gentlemen, if I have failed to convince you as to the correctness of my practice, I hope you will take my remarks in the spirit in which they are offered. My desire is to impart what knowledge I possess for the advancement of Horticulture, and right or wrong, to excite thought and action, for I feel that we can scarcely be rendering our adopted country a higher service than by imparting knowledge to one another on the development of Horticulture and Agriculture, and who shall say that we may not see Peaches as large as Melons, or more modestly as large as the largest apple we have seen."

A discussion followed the reading of the above paper.

Mr. Adcock thought the thanks of the members due to Mr. Boyseil for the trouble he had taken in initiating what must be a great feature of the Association, but he could not agree with him as to manuring and pruning. He had himself as is well known some of the finest Peach trees, and grew as good fruit as most people, and the trees were planted on a light soil with limestone for a subsoil; they had had no manure for the last ten years, and he did not think they would ever have it. With regard to pruning, he adopted the English system, but found it necessary to leave more wood than in England, in consequence of our more intense sunlight and the hot winds. His trees were clothed with young wood to the stems, and even on the stems he had fruit this year. He objected to mulching, as he had found it a great harbour for insects, which destroyed the fruit. He advocated the planting of dwarf standards instead of tall ones, for although he cultivated the latter for sale to please his customers he much preferred the dwarfs.

Mr. Middlemiss, as an amateur without experience or practice, felt a diffidence in offering any opinion, but he could not help from theory opposing Mr. Boyseil's views as to manuring. It struck him that a little manure might be useful in renovating an old partly exhausted tree, but he could not but think that the high manuring plan suggested, would produce uncontrollable masses of young, unripened, unfruitful wood. Mr. Boyseil's theory of not wishing to produce

rootlets, was a new one, as he (Mr. M.) had generally understood that the more of these, instead of long, strong, rampant fellows, the better. He agreed with mulching on dry light soils, because it helped to retain the moisture around the roots. He was aware that the system of pruning suggested had been adopted in France, but he thought it was not equal to the old plan for this colony.

Mr. Miles, Mr. Batson, Mr. Powney, and Mr. Neilson also took exception to Mr. Boysell's plan; and the latter gentleman wound up by promising to convince them by ocular proof of what he could do during the next year or two.

Mr. Charles Wyatt, through his gardener, Mr. Neilson, laid on the table handsome plants of *Wellingtonia Gigantea*, and *Cupressus Warreana*, the latter being much admired for the beauty of its foliage. A very good seedling "Noblesse" Peach, and some remarkably good Onions, Parsnips, and Carrots.

The Secretary distributed amongst the members, seeds of the Tea Plant, sent to him for the purpose by Dr. Mueller, and suggested that it might be carefully experimented on, and the results made known to this Association.

Mr. Mitchell exhibited a Metallic Ink for marking tallies.

Mr. Batson gave notice, that at the next Monthly meeting, which was announced for the 20th March, he would read a paper on the "Cultivation of Annuals in Victoria."

Horticultural Improvement Association.

EXHIBITION OF FRUIT, FLOWERS, &c.

During a long residence in this colony, it has seldom fallen to our lot to witness so good an Exhibition in every way as that held under the auspices of this Society on the 27th ultimo; and it is more noticeable when we remark that only a few weeks since recorded the organisation of that Society. It is indeed a proof that Horticulturists can unite and pull together for their mutual benefit, and in this instance it was decidedly—a strong pull, and a pull altogether, to achieve results so satisfactory.

The Judges were—For Flowers, Messrs. J. Smith, of Smith & Adamson; W. Elliott, of Lang & Co., Ballarat; and J. Davison, Geelong. For Fruit and Vegetables—Messrs. Middlemiss and Peel.

The Exhibition was held in the large hall of the Mechanics' Institution, and although every available space was occupied by tables, very many of the exhibits in the Vegetable Department had to be arranged on the floor. On entering the Hall, the eye was arrested by a very beautiful design in cut Dahlias, surmounting the Organ, with the word "Welcome," the contribution of Mr. Thomas Adcock, of the Kardinia Nursery; it displayed very great taste, the colours of the various flowers blending most harmoniously. On the right of the double centre table, Class A, commenced, and in Stove or Greenhouse plants, the Hon. J. F. Strachan, by his gardener, Mr. Barton, exhibited amongst others, *Lilium lancifolium album*, *Jasminum Samba*, and *Begonia fuschoides*. In single specimen Stove or Greenhouse plant, the same gentleman took first prize with a very beautiful plant of *Mandavillea suaveolens*, certainly the prettiest thing in the room; and the President of the Association, Alfred Douglass, Esq., second prize, with *Gloxinia Victoria Regina*; he was also successful in Division 4, exhibiting three very beautiful Gloxinias, *Compte de Nepperg*, *Roi de Belgie*, and *Rosea mutabilis*. Most choice too were the Achimenes, from the Greenhouse of Mr. Douglass, taking a first prize, viz., *A. grandiflora*, *purpurea*, and *Ambroix Vers-chaffell*.

The Fuschias generally were indifferent, Mrs. Wyatt's perhaps being the best, she taking a second prize for the best dark specimen. In her collection were "England's Glory," *Caroline*, and "Prince Patrick." Mr. Henry King also took second prize for best specimen Fuschia light.

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HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds.
Fruit, Forest, and Ornamental Trees.
Shrubs and Pot Plants, a good variety.

Tuesday, 19th March, at 11 o'clock,

ON THE FARM OF

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Who is leaving the Farm in consequence of having entered into other business arrangements.

IMPORTANT SALE

OF

VALUABLE IMPROVED FARM,

WITH RIVER FRONTAGE, AND

FARMING STOCK.

JOHN DAVISON

Has been favoured with instructions from John Anderson, Esq., to sell by auction, on his Farm, Inverleigh. On TUESDAY, 19th MARCH, commencing at 11 o'clock precisely,

HIS well-known VALUABLE FARM on the River Leigh, comprising about

450 ACRES

of superior land, 94 acres only of which are under cultivation, the remainder grazing, all substantially enclosed.

The Improvements consist of—

SIX-ROOMED DWELLING HOUSE,

Detached Stone Kitchen, Store, &c., with slate roof, large Stone Granary and Dairy slated, Men's Hut, Shed, Stabling for 8 horses, substantial Stock Yards, Garden well stocked with Fruit Trees, &c.

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The whole of his Valuable Farming Stock, Implements, Machinery, &c., comprising—

- 18 Head Horse Stock, consisting of some fine draught mares, in foal and with foals at foot, unbroken colts and fillies, Timor pony, fine hacks, capital buggy mare, &c.
- 11 Dairy Cows with calves at side and in calf
- 19 Head young stock, Steers, &c.
- Fat Pigs.

The Machinery and Farm Implements include—1 four-horse power portable combined threshing and dressing machine, by Strong, of Goole, capable of threshing 300 bushels per diem. 1 Richmond & Chandler's No. 4 B chaff-cutter, with change wheels and extra knives, fitted for horse or hand power. 1 corn crusher, No. 2, similarly fitted. 2 winnowing machines, by Ransome and Sims, and Hornsby. 2 Howard's ploughs, with steel mould boards, &c. 3 sets zig-zag iron harrows. 12 spouted corn and manure drill, by Strong, of Goole. 1 Paterson's patent clod-crusher. Wooden roller. 1 7-tined scarifier with side lever and double front wheel, by Coleman, with extras. Single horse hoe and drill plough, by Benthall, with extras. 1 Cotgrave's subsoil and trenching plough. Circular iron pig troughs. 1 single row drill for small seeds. Hand rake on wheels, patent sack holder and truck, sack truck, tip drays, hay frame, light cart, double dash churn, capable of churning from 25 to 30 gallons cream, and other dairy utensils, plough and cart harness, farming tools, scales, weights, and sundries, &c. &c.

The Furniture includes—Mahogany table, sideboard, large sized iron tubular bedstead, by Winfield, single ditto and stretchers, chests drawers, wardrobe, tables, chairs, kitchen utensils and sundries.

ALSO

1 stack, about 20 tons, Oaten Straw, in first-rate condition.

TERMS for the Farm, (which will be offered at 12 o'clock), 1/3 Cash; 1/3 by acceptance at 6 months; balance by acceptance at 24 months, bills bearing interest. Titles, Crown Grants. TERMS for the Stock, &c., declared at sale.

The Hon. J. F. Strachan exhibited three Pelargoniums—*Admiration*, *Gipsy Girl*, and *Incomparable*, which won him a second prize; and he also carried off a similar prize for the best specimen Pelargonium. "*Princess of Prussia*" was the belle in Division 19, best single specimen Geranium.

No good Petunias were exhibited, although Mr. Strachan and Mr. Calvert took second prizes for their exhibits in this division; but the Balsams of the latter gentleman, brought in by his gardener, Mr. J. J. Miles, deservedly took first prize; Mr. Thomas Cain's walking off with a second. Mr. Strachan's Cockscombs were very good. Miss Stretch exhibited a small, but very pretty collection of Native Ferns,—the most handsome being a *Lomaria*, from Gipps Land. The Judges deservedly awarded them a first prize; and a glorious specimen of *Neottopteris vulgaris*, won a similar distinction for A. S. Robertson, Esq., Vice-President of the Society. Mr. Calvert took first prize for the best six plants for beauty of foliage, viz., *Polygonum platycladum*, *Paulonia imperialis*, *Farfugium grande*, *Fuschia Elegans*, *Coleus barbata*, and *Hydrangea Salicifolia*. Mr. Strachan's *Rhopala Corcovadense* took first prize as a new plant. At the head of the room, below the orchestra, was a beautiful collection of Coniferous plants, exhibited by Mr. Thomas Adcock, of the Kardinia Nursery, which gained the highest encomiums from the Judges, and the universal admiration of the visitors. Following down the centre table, the middle to the bottom was occupied by a splendid collection of Plants, most generously sent in by Daniel Bunce, Esq., of the Botanical Gardens. There are few persons similarly situated, who would have allowed so great a disarrangement of their Greenhouses, as the removal of this large group must have occasioned, and the thanks of the Committee were unanimously awarded him for contributing so much to the *tout ensemble* of the Exhibition. Amongst Mr. Bunce's plants, we noticed a *Tweedia*, *Cassia cocalipina*, *Brixia Madagascariensis*, some good *Begonias*, and *Achimenes*, *Statice Dicksonii*, a fine *Bryophyllum*, *Hibiscus splendens*, (the high scarlet flowering plant which attracted so much attention), *Stiffia insignis*, &c.

Class C.—Cut Flowers, commenced on the left hand table just under the Orchestra. We were surprised to find no Dahlias exhibited, even the few entered not being brought forward. Mr. Thomas Jeffrey, of the Newtown Hotel, exhibited three very good Roses, for which he obtained a second prize. Mr. Strachan and Mr. A. S. Robertson being competitors with him. He also took a prize for the best specimen Rose. Some of the China Asters shown were very good, Mr. Strachan taking first prize for the best six and three; and Mr. Thomas Cain, of Belmont, second for the latter number. The latter had also some fine plants amongst the Extras. Of French Marygolds and Zinnias there were some fine plants.

In Division 57, Six Verbenas—There were six entries, and many good plants were exhibited. Mr. Job Durran, gardener to John Buckley, Esq., took first prize, and Mr. D. W. Collins, long known for the excellence of his Verbenas, second. Mr. Sidney Powney, who exhibited unsuccessfully here, gained a first prize for a collection of Verbenas amongst the Extras; and a second in Division 58, three Verbenas.

The Cut Flowers were certainly the most attractive feature at the Show; we never remember having seen in Victoria collections arranged with so much taste or containing such a variety of good plants; that of Mr. Skinner was very beautiful, and his Phloxes and Verbenas were gorgeous in the extreme, he won and deservedly so, the first prize; A. S. Robertson, Esq., the second. Mr. Thomas Jeffreys' collection attracted much attention, and was honourably mentioned by the Judges for its general arrangement. Mr. C. Wyatt, of Fyansford, also exhibited, but not for competition, a most tasteful collection, highly praised by the Judges. We noticed

amongst other choice things in it, a pretty new *Penstemon* and a good *Phlox Drummondii*. Lower down the table a stand of China Asters, sent in from the establishment of Mr. Charles Wyatt, attracted much attention; and at the bottom was Mr. Thomas Adcock's grand collection of Native Plants, a host in themselves. The Judges considered the exhibitor deserving of high praise for so interesting a contribution. On the right of the centre table the Bouquets and Extras were arranged. For Table Bouquets there were eight exhibitors; none very remarkable, and all, as usual, too stiff and formal. Mr. Job Durran, gardener to Mr. Buckley, took first, and Mr. S. Levien, second prize. There were nine exhibits for Hand Bouquets, and strange ideas the exhibitors appear to have had of the necessary proportions. We shall expect to have half a dozen Blue Gums, an Aloe or two, set off by young Poplars as a choice ball-room bouquet. The Judges gave only a second prize to D. Carstairs, gardener to Mr. Thomas Powell; the other exhibits being disqualified on account of size.

Model Flower Gardens most decidedly were not in any way what the framers of the Schedule intended; they were merely groups of flowers, and Mr. Thomas Cain's, being the prettiest, took first prize.

We certainly expected a larger exhibition of Fruit; but withal there were some very choice groups. Alexander McKenzie, Esq., J.P., exhibited some very beautiful black and white Grapes, all of which took prizes. Mr. Cordell had first prize for best bunch black; and Mrs. J. G. Ware, for white. The 24 Peaches of Mr. John Boyce, and the 12 of Mr. Hassall, took first prizes; the latter gentleman also exhibited some very fine Plums in Division 73. Mr. Henty's French Prunes were very good; and the Mulberries of Messrs. Levien and Mrs. Timms, well flavoured, and deserving of the prizes they obtained. Mr. Durran, gardener to Mr. Buckley, took first prizes for Apples and Pears; and for collection of Fruit, Mr. King was awarded first prize. Three magnificent Seedling Peaches, (weighing one and a half pounds), exhibited by Mr. Cordell, of Malop-street, were much admired, and although not entered for competition, the Judges awarded them a first prize.

We must refer to the advertised list for the awards to exhibitors of Vegetables, which are too numerous to mention *seriatim*. We regret that the exhibits of Mr. Samuel Hassell were in almost every instance disqualified from having a wrong ticket placed upon them, as many of them would otherwise have taken prizes.

Amongst the Extras, we may particularly mention the Wax Flowers of Mrs. Middlemiss, to which the judges awarded a first prize, they deserved it; those which took the second prize did not. The collection of thirty Pot Plants exhibited by Mr. Calvert, was very deserving of the second prize it received; a small specimen of Stag's Horn Fern amongst them, we fear was scarcely sufficiently noticed. Mr. Durran's cut flowers, "*Begonia grandiflora*," and "*Escalonia floribunda*" were very good and obtained a first prize.

The Judges awarded a first prize to some very fine Oranges and Lemons, kindly sent in for exhibition by D. C. McArthur, Esq., from his garden at Heidelberg; and honorary certificates to Mr. Thomas Adcock, for his beautiful collection of Dahlias, unsurpassed in this colony at any exhibition we have attended, and his most tempting stand of Peaches; to James Henty, Esq., of Melbourne, for a fine collection of Fruit, which was placed near them; to Mr. Charles Wyatt for a very good collection of Vegetables; and especially to Messrs. Smith and Adamson, for their glorious group of Roses, comprising some thirty sorts.

It would be impossible to particularise further the many choice things in the Exhibition; we have said it was a great success, and it was deservedly so, since the Committee did their best to make it worthy of support in every way. We earnestly wish the

Wheat and Oats.

THE Undersigned are prepared to receive Grain on Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.



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THE Undersigned begs to inform Farmers and Settlers of the Western District, that he has constantly on hand, and for sale, a large shipment of both Colonial and English made Boots, guaranteed of the best material and workmanship, at moderate prices. Parcels made up strictly to order, and punctually forwarded.

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Association success, and we think the public generally will patronise it, as we have heard commendation of this Exhibition on all hands,—*namine contradicente*.

We hear that the Association has in progress a very elegant design for their Honorary Certificates.

Horticultural Society of Victoria.

The third Exhibition of this Society came off on Saturday last, in the Botanical Gardens, Melbourne, a locale of itself sufficient to induce a large attendance of visitors, when the weather is so fine as on Saturday, and as a matter of course attracted a large and brilliant assemblage of the *ton* of Melbourne. The Exhibition was a good one in the departments of Fruit and Vegetables, and although Pot Plants were not so fine or numerous as might have been expected, they were on the whole good. The Cut Flowers were numerous and fine, particularly Dahlias, Mr. Scott's collections being excellent samples of good cultivation and care. We were rather astonished at the decision of the Judges in the collections of Cut Flowers and in Roses, but we are bound to believe that they awarded the prizes to the best exhibits. Messrs. B. & S. Johnson's collection of Cut Flowers, was, in our opinion, too good for the second prize, they were exceedingly well arranged, and what in our estimation was a good feature, they were all correctly named. Mr. Ferguson exhibited some seedling Gladioli, which particularly attracted our attention, they were very good, and as blooming late will be acquisitions. A collection of Zinnias exhibited, we think, by Messrs. B. and S. Johnson, was deserving of the highest commendation. We have said plants in pots were not numerous, but Mr. Sangster, gardener to John Brown, Esq., exhibited some capital specimens; *Vinca Rosea* reminded us of some of the specimens at Chiswick; and *Alamanda Cathartica*, an excellent exhibition plant for this period of the year, was also first rate. *Hoya Carnosa*, a good plant, and others made up Mr. Sangster's collection. We must not omit to notice the collection of Plants in Pots, and the fine collection of Perennial Phloxes exhibited by Mr. Rule, nor the very beautiful collection of Roses, Verbenas, and other cut flowers, exhibited by Messrs. Smith and Adamson. The *Tacsonia Manicata* flowers exhibited in their collection, delighted us much, as it is not generally considered a free flower. To these latter gentlemen, who did not exhibit for prizes, the Society was much indebted for its successful display.

Fruit, as we have said, was good, and we much regret that we were unable to get the names of the collection of Pears exhibited by Mr. Perry, of Fulham Grange. We saw amongst this collection samples of some of the more esteemed varieties in England, which would utterly astonish some of the old fruit growers, and delight the heart of Mr. Rivers. We counted thirty sorts, but we were pressed by visitors, and pressed for time, and had to pass them over. Mr. Perry's collection of Apples were also very good, these were for exhibition only. Grapes were not very fine, Mr. Cole's collection only being superior. Peaches were not numerous, nor very fine. Mr. Burton, of St. Hilliers, exhibited Filberts, Zante Currants, and Walnuts, in very good condition; and Mr. Whatmough, who took the first prize for collection of fruit, exhibited Spanish Chesnuts.

Amongst Vegetables, the Cucumbers were particularly fine; and Onions, Celery, Vegetable Marrow, Rhubarb, and collection of Tomatoes, were exceedingly attractive. On the whole this department was good, and spoke volumes in favour of this extraordinary season.

From the Botanical Gardens numerous rare and beautiful plants in pots were dispersed throughout the tents, and the Society is much indebted to the indefatigable and world-famed superintendent for much of its success. He sent a quantity of young Tea plants, from the seed lately received from Hong

Kong by him, and the Madagascar lace plant contributed in no small way to the gratification of the ladies particularly. The beautiful Stagshorn Fern surprised the youngsters, and numerous were the enquiries we heard about "where the roots were." We regret that we had not sufficient facility for giving such a report of this Exhibition as we could have wished. It was deserving of every commendation.

Gisborne Agricultural Show.

A most interesting Show took place on the 27th February, which from the great number of visitors, appears to have attracted more than ordinary attention. There were exhibits of Live Stock, Grain, Produce, and Implements. The Grain, although the season has been somewhat unfavourable, was of good quality, Mr. Dewar's wheat being especially approved of, and taking first prize. Strange to say, Mr. Thomas Smith was the only exhibitor of Barley, and took first prize for Cape and English. Mr. Dewar obtained first prize for Tartarian Oats; Mr. W. Thompson here, as in Wheat, carrying off the second. Potatoes were remarkably fine, and the competition good. The Turnips, Carrots, Onions, and Mangolds exhibited proof of good cultivation, the latter being excellent as regards symmetry, and the kinds very distinct. Some fine Green Clover and Maize spoke well for the quality of the land. The Draught Horse Stock decidedly carried the palm among live stock; and owing perhaps to the interest taken in the aged entries, some difficulty was experienced in obtaining Judges, those who had been requested to act having failed to put in an appearance. Messrs. Neilson and Thomson's "Blackleg," about which much has lately been said, succeeded in obtaining the first prize, which he well deserved. Mr. Jones's "Cromwell" being a close second; whilst in Colonial-bred entries, Mr. Dougharty gained first prize with "Bay Champion;" Messrs. Watson's "Star," second; and Mr. Peter's "Douglass," third. The young Colonial Horse Stock contained some promising animals, one or two owning Mr. James's "Cromwell" for their sire. In the two and three year old Filly classes a difference of opinion appeared to exist as to the merits of the Judges' decisions; Judges however have an onerous duty to perform, and we have no doubt they did their best to fulfil it. In the Neat Cattle Classes, we regretted to notice the absence of Messrs. Morton's stock; the classes however were well filled; but both in quality of breeding and condition, the exhibits as a whole were manifestly deficient. The young stock in this department, as in the horses, promised well for future years. Sheep were entirely absent, this not being a pastoral district; and Pigs, though few in number, were fair specimens of porcine excellence. The entrance to the Show was, as heretofore, free, so that all classes of the Farming population had an opportunity of contemplating and comparing the various exhibits, an opportunity which cannot but be productive of much good.—Abridged from the *Farmer's Journal*.

Melton Agricultural Society.

A most successful Agricultural Show was held a few days since, at the Show Yards of the Society, which was a great improvement on any which had preceded it. The exhibits in Horse Stock, were both numerous and good, and the competition keen in many classes. The Judges awarded the first prize for aged entires, to "Cromwell," the property of Mr. James; Mr. Staughton's "President," taking the second. There were a great many competitors in the "dry mare class," and the Judges' decision was somewhat questioned by the unsuccessful ones. Mr. Tweddle, however, took first prize.

The Neat Cattle classes were well represented, and contained some really good animals. Messrs. Morton's bull, "Lord Raglan," was the only "aged,"

exhibit, but well deserved the first prize that was awarded him. Of the two year old bulls we cannot speak so favourably; two animals, with little pretension to quality, comprised the entries in this class—Alexander Mackintosh, Esq., taking first prize, and John Moylan, Esq., second; the latter also received prize as best bull in the district. The awards for best and second best cow of any breed fell to Messrs. Morton, for their well known "Cowslip II." and old "Cowslip;" those for three year old heifers respectively, to Messrs. Thomas Smith and John Moss. Messrs. Morton were again successful in the two year old class: B. C. Porter, Esq., being second; and in dairy stock, Messrs. Mackintosh and Thomas Smith succeeded in carrying off the first prizes. The sheep classes were tolerably filled, but contained nothing specially worthy of notice, except a novelty in the way of two ewes and a ram of the Chinese breed, the property of Messrs. Watson and Hewitt. As they were recently shorn, we had no opportunity of judging of the quality of the fleece, which is generally understood to be heavy, but coarse. They are most singularly formed at the rump, which hangs down about 8 inches like a pad, from the bottom of which protrudes a very diminutive and curly tail. The head and ears resemble those of the goat rather than of the sheep. Pigs were few, and demand no special mention; nor did the poultry classes contain anything that would pass muster amongst fanciers. The grain and roots evoked much competition; the best wheat weighing 66½ lb. per bushel, was grown by Mr. Thomas Smith; Mr. Kidston being second, with a sample differing but little in weight, indeed the whole of the exhibits were within ½ lb. of the above. The same gentlemen were successful in oats. Mr. Smith too was first in English and Cape barleys. A fine sample of "Lady Barkly" potatoe gained an extra prize. Mangolds are evidently creeping into favor; there was a capital collection of them and some good carrots, onions, &c.; but a protest was entered against the award of first prize for onions, on the ground that they had not been grown in the district. The show of implements was good, but less numerous than on the former occasion.—*Farmers Journal*.

Kyneton Agricultural Society.

The Annual Grain and Farm Produce Show took place on the 6th instant. The exhibits of Wheat and Barley were generally of superior quality,—the prize Wheat weighed 65 lbs. per bushel, and the Oats, 43 lbs. After the Exhibition, this Wheat was sold, at prices varying from 9s. 6d. to 11s. per bushel, and the Oats from 6s. to 8s. 3d. The prize Barley was sold at 5s. 6d. to 5s. 9d.

The Show of Fruit and Green Crops was remarkably good, and the Exhibition as a whole was decidedly good.

Ovens and Murray River Agricultural Society.

The Second Annual Exhibition of this Society took place on the land belonging to the Association, on the Ovens, and it compared favorably with those held in other parts of the Colony. Mr. Gulliver's "Wonder of the World," took first prize for best entire; Mr. Evans' "Jim Crow," for best thorough bred horse.

There were numerous entries in Farm produce, Implements, Wines, Fruit, Vegetables and Flowers.

HOLLOWAY'S PILLS cleanse the blood of all degenerating particles, and render it a pure and healthy fluid. Its action is gentle, but sure and reliable, and imparting health and vigor to weak and debilitated constitutions of all ages.

HINTS TO COLLECTORS OF CUT SPECIMEN FLOWERS.

In my wanderings through the bush, I have oft times met with some attractive plant. It not being the season of the year to transplant it, I have therefore contented myself with gathering the blossoms, but they quickly faded and became useless. I then tried to keep any I found in a paper box, and met with the like result. Some four months since, I was in the neighbourhood of Carnham, and obtaining a wide-mouthed bottle, quite dry, placed therein some very pretty specimens of Orchis, and other wild flowers; they remained in the bottle three days uncorked, and were quite fresh when I took them out to prepare them for drying, which I did thus:—Take an ounce of alum, dissolve it in a quart of water; steep the specimens therein for half an hour, then let them dry, and place them between smooth writing paper and press them. The astringent properties of the alum preserve the colors in all their pristine beauty.

J. M.

ENORMOUS FRUIT.

Mr. Boysell, in a paper recently read before the Horticultural Improvement Association, prognosticated that we should ere long see peaches as large as melons,—and we can scarcely doubt it, since Mr. Williamson of Lexton has sent us a leviathan apple, of the enormous dimensions of 15½ inches in diameter, and weighing 1½ lbs. We purpose forwarding it to Dr. Ferdinand Mueller, who, we learn, is collecting specimens of fine fruit, to have modelled for transmission to the Great Exhibition of 1862.

We have also to thank our friend Mr. Adeock, for a magnificent basket of peaches, from the Kardinia Nursery; for rich flavour, size, and shape, the most beautiful we have ever seen in the colony. There were seven varieties:—Admirable, George the Fourth, Noblesse, Red Magdalen, Smith's, Newington, Precox de Savoie. We shall be happy to receive fine specimens of fruit for the purpose above-named, which we will forward to Dr. Mueller, with the contributor's name and address.

CURIOUS GROWTH OF POTATOES.

The following appeared in the Tasmanian Journal of Agriculture and Horticulture, in a letter by W. J. Thompson:—

"I planted a piece of ground with potatoes, for an early crop. They grew and looked very well, till there came a severe frost and cut them *all down*. About three weeks after this, they again looked green and well; but instead of one or two strong stems to each root, there were a number of weakly shoots sprung up. I took up two roots, threw away the sets, and planted a few of the slips with small fibres about the size of a thread to each. They grew well. I took them up last week. The potatoes from the slips are larger considerably than the others, and I have more than three times the crop from the slips than from any two roots in the plot of potatoes I took them from.

"I wish this to be generally known to all potatoe growers, as there is now no fear of losing the crop by the early frost, to say nothing of the increased weight of crop. One rod of potatoes, after being cut off by frost, will produce slips enough to plant five or six rods, and the crop will be considerably larger.

SUCCESSFUL PLAN TO RIPEN FRUIT.

Large quantities of unripe fruit are often shaken from the trees by the high winds—these, (especially peaches) arranged in single layers and covered with flannel, will, in the course of four-and-twenty hours, become perfectly ripe. Most probably this plan would have a like effect upon grapes. In England, the latter are sometimes packed in green nettles which improves the flavor, and gives the clusters a fine bloom.

J. M.

HOWARD'S NEW FEN PLOUGH.

The first trial of Mr. Howard's new Fen Plough was made the other day on the farm of Mr. Alfred S. Ruston; and the following is a report of its operation:—

"A man with a pair of horses and a common plough went first, turning the soil to the depth of from 2 to 5 inches; the deep plough followed, drawn by six horses, and carrying a furrow from 12 to 14 inches deep, making a total depth of 18 inches. Another experiment was also made, the common plough going first as before, and the deep plough following drawn by ten horses, with a furrow from 18 to 20 inches deep, making altogether a depth of from 22 to 24 inches. A single furrow during the preliminary trial was ploughed even four inches deeper than this. Persons not possessing a knowledge of fen soils would scarcely conceive that such an extraordinary depth could be attained; but it was done, and successfully too, and without overtaking the strength of the horses. Indeed, the ease with which the plough was held, and the steadiness with which the horses walked off with it, and the manner in which the furrows were so completely inverted, excited great surprise, and elicited general approval. When ploughing 18 inches deep, more than once the plough ran twenty yards and upwards without being held at all; and when in the deep work, it was not more trouble to hold than an ordinary plough. The plough is a heavy implement, being very strong, and made entirely of wrought iron. Some of the 'lookers on' expressed an opinion that because it was heavy itself it must necessarily draw hard, but this does not follow, and the walk of the horses at the trial clearly testified the incorrectness of the notion. We conceive, in some of our fen districts, this plough might be almost used for 'claying' the land, as in several instances it ploughed up from 6 to 8 inches of clay, when working at the greater depth. We have no doubt but ultimately it will be brought into general use."

Wine Making for Housekeepers.

Promising as is the crop of Grapes this season, and comparatively low the prices ruling for them as table fruit, we may reasonably expect that many persons will convert them into a good wholesome beverage, to serve in lieu of the adulterated drinks palmed off by unscrupulous dealers. We say, we may expect, but actually several applications are now before us, enquiring how Wine may be manufactured on a limited scale. We have two methods before us,—one employed by Vine Growers on a small scale in Spain, the other plain, simple directions, by a well known correspondent to our contemporary, the *Argus*, which we gladly make room for:—

Take about 30 lbs. of Grapes, squeeze or crush them in a vessel capable of holding not less than four to six gallons, placed in a cool place. In two or three days, or if the weather is hot, perhaps 30

or 40 hours, fermentation will commence, when the skins and those grapes that have escaped crushing will begin to rise to the top, and a thick crust be formed, which will gradually rise, perhaps so far as nearly to reach the top of a four gallon vessel. This operation of nature is accompanied by a hissing or bubbling noise, which discontinues as soon as the first fermentation is complete—a process which may occupy, from the time of crushing, two, three, four, or even five days, according to the state of the atmosphere. When this first fermentation is complete, separate the juice from the skins, &c., by drawing off a little above the bottom of the cask, or by straining.

You should have, from the above quantity, more than two gallons of juice. After filling your two-gallon cask, which will continue fermenting but moderately, and throwing off refuse (the bung being left open), use the surplus wine for filling up.

When the wine discontinues throwing off the refuse, and no more hissing can be heard, bung it up quite full, and make a small hole near the bung with a gimblet. Through this hole a gas will be emitted, for perhaps a month or more, sufficiently strong to blow out the light of a match. When you find the gas not strong enough to blow out a match light, stop the hole with a peg, but occasionally open it. Then fine the wine, if red, with the white of one egg, beaten up raw; if white wine, with a table-spoonful of isinglass; and in a few weeks, if you like young wine, you will find it fit for use.

If you find the wine requires fortifying, apply to it a glass of brandy, or, if red, a bottle of port, or, if white, a bottle of sherry. I find both port and sherry mix well with new Australian wines.

With regard to the description of grapes to use, I have found all who have used the sweet water perfectly successful; but I have not yet seen in Victoria one description of grape from which, when ripe, I could not make a good wholesome wine.

SAWDUST AS A MANURE.

A German gardener, Herr B—, related to me the other day, the great value of Sawdust as a manure. He instanced it in the fact that he had experimented upon it in an Orchard, consisting principally of Peaches, Apricots, and Plums. The trees, although in tolerable vigor, were almost destitute of fruit. In July, 1859, he procured a quantity of decayed Sawdust and applied it plentifully; digging it well in around the stems of the trees: the result has been, both in the last and the present season—an abundant Crop. J. M.

CURIOUS ALLEGED DISCOVERY IN FLORICULTURE.—It is said that Mayor Tiemann, at his paint factory at Manhattanville, has accidentally made a discovery which threatens to revolutionise horticulture. One of the factory hands having thrown some liquid green paint, of a particular kind, on a flower-bed occupied by white anemones, the flowers have since made their appearance with petals as green as grass. The paint had in it a peculiar and very penetrating chemical mixture, which Mr. Tiemann has since applied, with other colours, to other plants, annual, biennial, and of the shrub kind, "the result being invariably that the flowers so watered took the hue of the liquid deposited at their roots." By commencing experiments early next year, during seed-time, and applying different colours, we shall, no doubt, soon be enabled to "paint the lily." This, however, we can personally testify—that charcoal put to the roots of dahlias and other flowering plants will redden them vividly, flowers nearly white being thus turned to a deep red, sometimes altogether, and sometimes mixed with the lighter hue in half a dozen varieties, from one and the same root. It has been repeated, and with success, for several seasons in France, having admittedly been tried there in consequence of reading the paragraph.

CHARCOAL AND BOILING WATER.

Bouquets of flowers fade fast away in this Colony. By placing a small piece of fresh charcoal in the water, they will keep fresh and well for a lengthened period, and if, after the return from opera, ball, or concert, a favourite bouquet has become withered, provided the petals are not crushed or broken, and the stems of the bunch of flowers are put about an inch deep in boiling water, they will revive in an hour's time.

J. M.

To Subscribers.

THE present number commences the fifth volume of the "Gazette," and in order to meet the regulations of the Post Office, it will be necessary that in the ensuing year we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.

With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

The next No. will be published on 6th April.

SUBSCRIPTIONS received since our last issue:—

	£	s.	d.		£	s.	d.
Mr. W. Edwards	0	7	4	Mr. H. Connelly, per			
" G. F. Maddison	0	14	4	Rev. C. Booth	0	5	6
" J. Pigdon, 1861	0	8	0	" J. Horton	0	0	6
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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 4.

APRIL 5, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

FARMING OPERATIONS.

Seed time is now drawing near, and on the old but sterling principle, that in this country the late crops are sure to fail if the early ones do, we recommend all our farming friends to exert themselves to get their crops in in good time; it is at all times much easier to check a crop by feeding it off, if too forward, than to force it by any artificial means. No time should be lost in sowing Cape Barley for early Spring green fodder; but if the land be poor a good coating of manure should be applied. If this be attended to the green crop may be cut, and the land receive an additional supply of manure to prepare it for Potatoes or Mangolds in October. This plan will enable the farmer to sow his Cape Barley on a piece of foul land with a view to clean it during the growth of the root crop. Oats should be sown this month if possible, and great care should be taken with this as with all other grain, to secure the very best and cleanest seed. It is a most mistaken economy to purchase cheap seed, because it is either deficient in cleanliness or quality; but in taking care to procure the cleanest seed, an equal amount of vigilance must be exercised to see that the ground for the reception of the seed is clean also, because all the care bestowed on the selection of the seed grain, will be thrown away if it be sown in dirty land. Oats may be sown till the end of May; but we recommend the middle of that month as the latest period that may be safely relied on.

Wheat requires to be still more carefully selected than Oats or Barley; it is the nobler grain, and a small per centage of any foreign substance deteriorates it more in value than an equal disqualification would any of the other cereals. From the reports of the late Agricultural Exhibitions in Geelong and Melbourne, particularly the latter place, it seems there will be little difficulty in procuring a supply of the choicest grain, and no expense should be spared to obtain some of those prime samples, if only for the purpose of raising seed from it, for the farmer's own purposes next year. It is not prudent at any time to grow Seed Wheat on the land you intend to sow the same on the following year, and this may easily be avoided by farmers whose lands are adjacent, growing seed for each other. It certainly

ADVERTISEMENTS AND SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.



VICTORIA.

CENSUS OF THE PEOPLE.

NOTICE.

WHEREAS the Parliament of Victoria having during the present Session passed an Act for taking an account of the number of persons who shall be within the Colony on the 7th day of April, 1861, and of their condition, sex, ages, &c.: It is hereby notified that forms will be left at every dwelling on or previous to Saturday, the 6th of April, and called for on Monday, the 8th, or following days; and all persons with whom the said forms shall be left are hereby requested to have them carefully filled and ready when called for, and in case of being unable to fill them up themselves, to afford to the collectors all information and answer all questions necessary for making a correct return.

By His Excellency's Command,
RICHARD HEALES.

*** Persons refusing to give information are liable to a penalty of £20.

Flemington Bone Mills,
Established—1855.

BONE DUST, £6 10s.

Per Ton, in bags, delivered in Town.

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FLEMINGTON Bone Mills, or any of the undermentioned Agents, will have prompt attention.

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W. Law and Co., at their new Warehouse, 118, Swanston Street, between Little Bourke and Lonsdale Streets, Melbourne.
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WHEAT. WHEAT.

THE undersigned are CASH buyers for delivery at their Mill at Riversdale.

DALGETY, IBBOTSON & CO.

would be better if the seed could be procured from a greater distance; but in the absence of this possibility, the course we suggest will be found to answer the purpose to a considerable extent. All Wheat lands should, if possible, be subjected to three ploughings.

All Straw not yet stored, or destroyed by exposure to the weather, should be carefully stacked before the weather changes, which may be now looked for daily. Continue to strip off all the outer and large leaves from the Mangold and Beet crops.

Potatoes should be attended to, and where they are nearly ripe should be taken up and stored carefully before the wet weather sets in.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

WINE MAKING.—(Kensington).—Very plain and simple directions for making Colonial Wines, were published in the "Gazette" a few months since, extracted from Dr. Busby's celebrated work, which was originally published in Sydney.

MR. BANKIN.—We do not differ from our correspondent so much as he imagines. We know that to attempt to carry out "the most approved system of English farming" here, would, in a majority of cases, be attended with loss; but we still adhere to our original opinion that no attempt, worthy of being called so, is made to approximate to that approved system. Let our correspondent try our remedy, keeping good dairy cows on his farm, for the double purpose of eating part of the straw, and converting the rest into a litter manure, and he will find we are right,—we have proved it, and know the value of the system,—and we believe nothing but mismanagement can prove it to be otherwise than profitable.

BELLERINE.—Yes. The plan recommended is, "to dig up and manure your ground, and to make holes in readiness to plant out Cabbages and Cauliflowers at the appearance of moist weather."

H. A.—Put in your Bulbs at once. See that the bed is mixed with well rotted manure and broken up fine. Sow hardy Annuals now.

MOSQUITOES.—The following appeared as a letter in the *Argus*, signed William Johnson, of St. Kilda:—"Permit me to call the attention of all whom it may concern to the very interesting fact (which I discovered as the result of some experiments some three or four years ago, and since verified by the experience of many others) that a few drops of oil of lavender—sold at about 2s. per ounce—smeared over the hands and face, &c., almost completely deters the mosquito from biting, even on the worst nights. I need not dwell upon the importance of the above discovery to the comfort of thousands in Victoria.

AGRICULTURE ADVANCED BY DISTILLATION.

THE Bill about to be introduced by the Government to legalise the Distillation of Spirits throughout the colony, is one of those measures which in a variety of ways will give a most vigorous impulse to husbandry in general. It will not be the Wine growing interest alone that will be benefited by the proposed Distillation Act; every Agriculturist may take advantage of what we presume will be its provisions, to enrich himself. From observations which fell from speakers in the House, it would almost appear that the Government have been led to deal with the question of Distillation now, chiefly because such large quantities of damaged grain are on hand among the farmers this year, and because illicit Distillation is carried on to such an extent as to cause a very considerable and serious diminution of the revenue. It is not our purpose here to enquire how far grain damaged by rain in the field at harvest time, can be profitably used for the extraction of spirits; but if such a course can be considered profitable to the farmer now, may we not naturally ask why the regular process of malting and distilling grain may not be at all times more profitable than the simple conversion of it into food for man, and the lower animals. The question of Distillation is now fairly before the public, and as in our opinion it is one fraught with the greatest importance to the whole of the agricultural interest of the colony, we cannot do better than draw the attention of our agricultural friends to it. There is however an unaccountable delay on the part of the Government in dealing with the subject on the present occasion, because if the farmers are really intended to benefit by the measure, no time should be lost in affording them the intended relief.

The question of Distillation is one that will evoke opinions the most opposite from the different classes of the community most interested in forwarding or retarding the measure; but on such points we shall be silent, and allude to the matter only as one materially affecting our agricultural prosperity. Looking at the subject then from this point of view, we are convinced that no measure yet introduced to the notice of the Legislature could give a greater impetus to Wine-making and to

Colac Agricultural Society.

The Colac Agricultural Society's

ANNUAL EXHIBITION

FARM & DAIRY PRODUCE, FRUITS, VEGETABLES, POULTRY, AGRICULTURAL IMPLEMENTS AND MACHINERY,

Will take place on the Society's Ground, Colac, on THURSDAY, APRIL 11th, 1861,

When the following Prizes will be offered for competition:

(Intending Exhibitors will please peruse carefully the Rules regarding Entries, &c., as these will be strictly enforced; and observe and specify the Class and Number under which they purpose exhibiting.)

I.—AGRICULTURAL AND DAIRY PRODUCE.

- Class 1. *a* For the best sample of Wheat, grown by the exhibitor, three bags of four bushels each, £3.
b For the second best of this class, £1 10s.
 2. *a* For the best sample of Oats, grown by the exhibitor, three bags, £3.
b For the second best of this class, £1 10s.
 3. For the best 3 cwt. of Potatoes, grown by the exhibitor, £1.
 4. For the best 4 bushels of Grey Peas, £1.
 5. For the best 2 cwt. of Hay, £1.
 6. For the best 20 lbs. of Onions, of one kind, grown by the exhibitors, £1.
 7. For the best $\frac{1}{2}$ cwt. of Silesian Beet, grown by the exhibitor, £1.
 8. For the best $\frac{1}{2}$ cwt. of Carrots, grown by the exhibitor, £1.
 9. For the best $\frac{1}{2}$ cwt. of Turnips, grown by the exhibitor, £1.
 10. For the best $\frac{1}{2}$ cwt. of Swedes, grown by the exhibitor, £1.
 11. For the best Salted Butter, keg or jar, not less than 14 lbs., manufacture of exhibitor, £1.
 12. For the best Fresh Butter, 4 lbs., to be made up in lbs., manufacture of exhibitor, £1.
 13. For the best two Colonial Cheeses, manufacture of exhibitor, £1.
 14. For the best two Colonial Hams, manufacture of exhibitor, £1.
 15. For the best side or flitch Colonial Bacon, manufacture of exhibitor, £1.

II.—POULTRY, &c.

- Class 1. For the best Spanish Cock and pair of Hens, £1.
 2. For the best Dorking Cock and pair of Hens, £1.
 3. For the best Game Cock and pair of Hens, £1.
 4. For the best Cochins China Cock and pair of Hens, £1.
 5. For the best of any other breed, Cock and pair of Hens, £1.
 6. For the best Turkey Cock and pair of Hens, £1.
 7. For the best Guinea Fowl Cock and pair of Hens, £1.
 8. For the best Gander and pair of Geese, £1.
 9. For the best Drake and pair of Ducks, £1.
 10. For the best two dozen Eggs, £1.
 11. For the best pair of Rabbits, £1.

III.—VEGETABLES, FRUITS, &c.

- Class 1. For the best collection of Garden Vegetables, grown by the exhibitor, £2.
 2. For the best collection of Fruit, grown by the exhibitor, £1.
 3. For the best collection of Melons, grown by the exhibitor, £1.
 4. For the best 6 Cabbages, grown by the exhibitor, £1.
 5. For the best 6 Cauliflowers, grown by exhibitor, £1.
 6. For the best sample of Colonial Wines, grown by the exhibitor, £1.

IV.—IMPLEMENTS AND MACHINES.

- Class 1. For the best Steam Threshing Machine, not less than two competitors, £5.
 2. For the best Plough of any kind, £1.
 3. For the best pair of Harrows, £1.

REGULATIONS.

1. All exhibits must be the *bona fide* property of the exhibitor, and must have been in his possession for at least one month immediately preceding the Exhibition. Any infringement of this rule will disqualify from taking a prize.
2. All entries must be made in writing, and signed by or for the exhibitor, on or before Monday, 8th April, at the office of the Secretary, when a Ticket will be given stating the Class in which the entry is made, and the number of the entry,—which ticket the persons in charge of the articles for exhibition must bring with them, and produce at the gate; and no exhibit will be admitted into the Society's grounds unless such ticket be produced.
3. The Exhibition is open to all; but exhibitors not members, must pay an entrance fee of £1, which will also constitute membership for the current year.
4. No exhibit of Horticultural Produce shall occupy more than twelve superficial feet of space; any exhibit more or less than this will be disqualified.
5. Exhibitors, if called upon by the Committee, must give every information in their power relative to their respec-

Agriculture than a carefully framed Distillation Act, if passed. At present we are all in the dark, we know nothing of what the provisions of the Bill are likely to be, and can do no more than urge our farming friends to be on the alert to obtain such information as soon as possible, and to exert themselves to the utmost in trying to obtain an Act of Parliament that will confer such advantages upon them.

The recent exhibition of Grain in Melbourne, under the auspices of the Port Philip Farmers' Society, proves that as fine samples of the cereals can be grown here as in any country in the world. We find that at that Exhibition, samples of Wheat—the growth of the Colony—were produced, that weighed 68½ pounds to the bushel; English malting Barley, 58 pounds to the bushel; and Oats from 42½ to over 50 pounds per bushel, so that so far as Grain is concerned the country can produce that of the finest quality in any quantity. But the great advantages of general distillation to the farmer will arise more from the cultivation of sugar producing plants than from that of cereals, because besides the production of the Cane and the root of the Sugar Beet for sugar-making, these plants afford abundant nourishment, through the leaves, for cattle and pigs. If the leaves are carefully and not too plentifully stripped from these plants, the cane and the root will both improve in a corresponding ratio. We may be considered too sanguine in supposing that the cultivation of either of these plants in the present state of the labour market would be profitable to the farmer, and we can scarcely go so far as to say they would actually be profitable; but with the commencement of distillation, accompanied, as it is likely it will be, by an increase of immigration, the labor market is not likely to present such obstacles to their profitable cultivation, as some may suppose.

The cultivation of the Sugar Beet in France has produced the most wonderful effects in some districts; in many instances the quantity of animal food raised, has increased in a few years fully one hundred per cent, while in others the increase has been considerably greater. But it is not only to the increase in the supply of stock that we have to look for those profits attending the introduction of the Sugar producing plants, which we contend will

enrich the farmer; it is to the immense quantities of refuse and manure created by the rearing and fattening of this increased number of animals that the farmer may look for his greatest profit. The Sugar Beet has been tried here and grows admirably along with the Silesian Beet, and the different varieties of Mangolds; and so far as we know the quantity of saccharine matter the root contains is equal here to what it is in any other country. The same with the Sorghum or Sugar Cane; the abundance of saccharine juice produced by this magnificent plant is, we should think, quite equal to the purpose of sugar-making. On its first introduction it seemed to be unsuited to the climate; at all events the efforts made to cultivate it were not generally crowned with success. Now however, perhaps through the short acclimatisation it has already undergone, it thrives splendidly. In some instances we have known the Crop from only a few acres of land so abundant that the grower was glad to share with his neighbours, because, singular to say, the parties who ought to be most interested in its culture—the livery stable and cow keepers—feared to purchase it for their cattle.

The leaves and refuse from these two plants alone, if they were grown with a view to making sugar for the purpose of Distillation, would feed an enormous amount of stock, besides producing as a second refuse an equally great amount of the very finest of manures with which to enrich the lands of the agriculturist. In the same way Vine growing and Wine making would be encouraged to their fullest extent, and the whole system of agriculture would undergo a rapid improvement, under a liberal Distillation Act.

Ferns and Ferneries.

THE very many graceful forms which are found amongst the group of plants called *Ferns*, whose mission on earth a late writer has defined only to be, that they should live and be lovely, have deservedly drawn the attention of amateur and professed Gardeners to them. We find Ferns now in all conservatories and hothouses of any pretensions; or, thanks to Mr. Ward, in the ornamental glass cases which bear his name, in nearly every drawing-room at home; and we can see no possible reason why the amateur Gardener here, even though his garden space be limited, should not cultivate a collection of these beautiful plants.

tive exhibits; and should such information not be satisfactory in the opinion of the Committee, any prize awarded may be withheld.

6. Each exhibitor must place his exhibit in the proper class when directed, with the ticket received from the Secretary stating the class and the number in the class.
7. No exhibit will be received into the yards on any account whatsoever after Eight o'clock A.M., on the day of exhibition.
8. All persons intending to exhibit extra produce must intimate to the Secretary and describe the same, at least one clear day preceding the Show.
9. No Member can exhibit unless his subscription be paid up for the current year.
10. No exhibitor will be allowed to remain in charge of exhibits during the adjudication.
11. Any infringement of these rules will disqualify the exhibitor from taking a prize.
12. The Judges may award a second prize instead of a first one, or may withhold a prize altogether when there is only one exhibit, or when the exhibits are not considered worthy.
13. No Judge shall be an exhibitor in the department in which he is a Judge.
14. The decision of the Judges shall be final, and without appeal. Any protest against or complaint of irregularity in exhibition must be lodged with the Secretary within one hour after the opening of the exhibition for the consideration of the Judges.
15. No exhibit shall be removed from the Exhibition before 5 o'clock p.m., without written permission from the Secretary.
16. The Society will not be responsible for the exhibits.
17. Exhibitors may have any book or article of plate of the same value as the prize, by giving notice to the Secretary within three days after the Exhibition.
18. Members are entitled to two admission tickets, which can be obtained from the Secretary.
19. All exhibitors must conform to the rules and regulations, which will be strictly enforced by the Committee.

Prize Lists, and any other information, may be obtained at the office of the Secretary.

JOSEPH S. MISKIN,

Colac, March 12, 1861.

Secretary.

Wheat.

THE Undersigned are Purchasers of Wheat at Market Prices.

DALGETY, IBBOTSON & CO.

On Sale,

By the Undersigned,

GALVANIZED FENCING WIRE; Black Fencing Wire and Corn Sacks.

DALGETY, IBBOTSON & CO.

JOHN EDEN,

Land Agent, Surveyor and Valuator, &c.,
24, RYRIE-STREET EAST, GEELONG.

HAS Farms to LET and SELL, from 40 to 500 Acres, on very moderate terms.

N.B.—Conveyances and Leases effected; also, sums of money to lend on real property, from £100 to £1000.

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NURSEY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

Cheap Sale of Timber, &c.

JOHN WRIGHT

HAVING determined to reduce his present ENORMOUS STOCK, will, for Two MONTHS, Sell all Goods at MELBOURNE WHOLESALE PRICES!

Thus securing

A VAST SAVING TO THE PURCHASER.

Kauri Pine and Cedar, logs and boards
Deals and Oregon Pine, very long lengths
T. & G. Scotch 6 x 3, 3, 3, 1 in., and 1½ in.
Doors and Sashes, in very great variety
Venetian Shutters, French Casements, &c.
Large stocks of Nails and Ironmongery
Turnery and Mantel Pieces, very cheap
Galvanized Corrugated Iron, Morewood's Tiles, &c. &c.
Skirtings, Architraves, Moulds,
And all kinds of JOINERS' WORK made on the premises.

Observe!

WRIGHT'S TIMBER YARDS,
Nearly opposite the Telegraph and Post Offices,
GREAT RYRIE STREET WEST.

There is no difficulty whatever in obtaining a good supply for a commencement by our river-sides, (the banks of the Yarra and Barwon for example;) but the majority are found in the moist and shady ravines or valleys of mountains, where we see them luxuriating on the remains of decayed vegetation—the soil they most love—covering with their creeping rhizomes the stems of trees fallen through old age, or sending their fibres into the fissures of rocks which often are hidden by their elegant fronds. A great many Ferns are *Epiphytal*, that is, grow on other plants without deriving any nutrition from them. Parasites, on the contrary, not only grow upon living plants, but actually live upon them; the fibres of both the Parasite and its supporters being almost united. As an example of an *Epiphytal* plant, we may name the Stagshorn Fern, and of the latter the Mistletoe; these *Epiphytal* Ferns desire their nourishment in a great measure from the moisture of the atmosphere.

To cultivate Ferns successfully, the great secret is to imitate, as far as practicable, their natural habitats, and a little perseverance will soon enable the amateur to overcome many little difficulties, which at first appear insurmountable. A shady place in the garden, if convenient near a waterhole, must be selected, which should be covered and surrounded with reeds or branches (those of the Tea-tree being well adapted) fastened on a slight frame sufficiently high to allow of walking underneath it; the branches should be laid on rather thinly, so as not to exclude the light altogether, but rather to break the fierce rays of the sun, and in some measure afford shelter against hot winds. Many have been the disappointments we have incurred from neglecting this precaution! The shape, size, and internal arrangement of this shed must of course be left to the means and taste of the cultivator. Beds filled with sand, or, what is better, *ashes*, about twelve inches deep, should then be prepared inside it. The Ferns having been obtained, they must be potted in a mixture of fibrous peat soil and sand, to which may be added some pieces of rotten wood or moss; the pots must be well drained, so as to keep the soil in them always porous and open. The rhizomes of creeping Ferns, such as *Polypodium rugulosum*, *Pteris vesperilionis*, and others, should be laid flat on the soil filled to about one inch from the top of the pot, and be covered slightly with soil. Ferns with fibrous roots, as *Lomaria*, *Aspidium*, &c., are planted in the usual way.

After the potting process is completed, all the pots must be plunged to the rim in the beds made for them as above described, and copiously watered; and some moss laid on the top of the pots will assist the quick growth of the plants. If a close frame is available, newly potted plants may be placed in it for a few weeks, as this will induce them to form roots and fronds more rapidly than otherwise they would do. For the first potting, the smallest pots which the size of the plant will allow of are preferable, re-potting, subsequently, into larger ones. A few weeks will suffice to establish the plant; but during this period, and subsequently also, they require a regular supply of water; and what, perhaps, is of more importance, frequent syringing over their fronds. During the hot Summer months, this ought to be done early in the morning, and again in the evening, but never in the middle

of the day during bright sunshine. The pots should not be crowded together, as this prevents the proper expansion of the fronds.

In the beginning of the Spring following, or sooner if the Ferns have filled the pots with roots, they must be re-potted in larger pots, or have the soil in the old ones partially renewed.

Ferns are propagated in two ways, through their *spores* (seed) or by division. In the first manner, the spores which can be readily obtained from any frond, where the fructification is mature, may be shaken out on a sheet of white paper, and then thinly scattered over the soil, which should be immediately covered with a hand glass, large enough to fit closely down on the pot. The pots are then to be set down in feeders, and these are to be kept filled up with water; but the process requires more care and attention than most amateurs will care to bestow on it. The latter, and easiest way (division), is done in the usual manner by breaking the ball of roots in one or several pieces, each of which must of course have a crown; or, if of a creeping kind, some eyes, and planting these pieces in separate pots.

Epiphytal Ferns do best if they are fastened on a block of porous wood (a piece of the stem of a Fern-tree) with lead or copper wire, placing some soft moss around the roots for retaining the moisture applied by the syringe. A number of branches or stems put together, forming a skeleton tree, and placed in the centre of a bed in the Fernhouse, might be well filled with *Epiphytal* Ferns, whilst others grown in pots fill the bottom of the bed; this, interspersed with rock work, in which many will flourish, will present a very pleasing appearance. Several kinds of *Lycopodium*, but especially *L. denticulatum*, may be planted on the sand between the pots for hiding it, and it will grow equally well if stuck between the moss surrounding the Epiphytal Ferns.

The beautiful fresh and green appearance of Ferns is easily destroyed, if they are allowed to get too dry, or if the syringing is neglected; but over-watering will produce almost the same effect, particularly if the pots are not sufficiently drained, as then the soil turns rapidly sour, which causes the plant to die or get sickly,—both extremes can easily be avoided. The action of a scorching hot wind may also prove detrimental to Ferns; but this, to a certain degree, may be counteracted by keeping the floor of the house constantly moist during hot weather.

Fern Trees, if carefully lifted out of the ground, may be preserved by moss being tied round the whole of their stem, the root end of which must of course be planted in the soil adapted for Ferns.

The above treatment can only be applied to hardy Ferns, *i.e.*, all those growing here or in New Zealand, or to such as are indigenous to Europe. The numerous kinds coming from tropical countries require the protection of glass houses or frames, which are but seldom met with in an amateur's garden in this Colony,

An exchange says—The farmers who hesitate about their ability to take a newspaper, are requested to keep one hen more than usual. The profits will pay all costs.

Florists' Bulbs and Tubers, Imported and Colonial saved.

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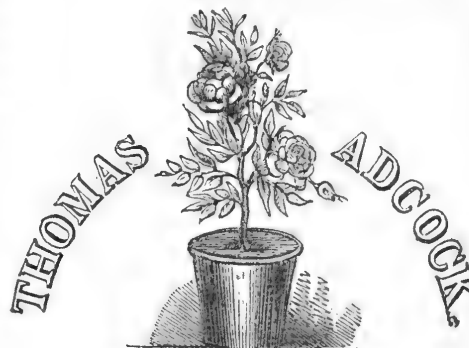
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WE have much pleasure in intimating that MR. WILLIAM ELLIOTT, of the CRESWICK ROAD NURSERY, has become a Partner in the Nursery Business, and will take the active management of that department; and his well-selected Stock of Plants having been added to our own, we can now offer for Sale an Assortment unrivalled in the interior of the Colony.

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FLORISTS, &c.,
THOMAS TOWN, PRESTON.

On the Cultivation of Annuals in Victoria.

"Flowers are said to be the language of Angels, whereby they write on fields and hills mysterious truths, fitting for mortals to learn,—truths that speak to the inmost heart of a pervading spirit that governs all things."

To those so engaged that they cannot go forth to the fields and hills to read these charming lessons, it has long been the practice to bring these lessons to them, and hence, gardens, flower gardens, where the lover of nature may study the various lessons that flowers are calculated to teach. Amongst these, some of the most beautiful, and most easily understood, are those whose constitution is such, that but a very brief period is requisite to bring them to perfection; these we call Annuals, and this tribe of flowers is not surpassed by any other tribe throughout the whole range of the vegetable kingdom, either for fragrance, diversity of form, beauty and variety of colour, in flower and in foliage; and all these properties are considerably enhanced when we take into consideration the facility with which they may be grown, and grown to perfection too, and in much less time than is required by any other tribe of flowers. They may be cultivated by every person occupying but a small portion of ground, the smallest plot at the cottager's street door, the more extended, but often more neglected parterre attaching to the villa, or public gardens, and places of recreation, all may be gay and glorious with these simple productions of nature. In the cultivation of Perennials we have to wait after two or three years for blooms, but in the case of Annuals we have perfection in a few weeks, and that too in all their beautiful varieties of form and colour; so speedy is the return, and so trifling the amount of attention required to bring them to perfection, that no valid excuse can be made (in this climate at least) why they should not be universally cultivated. The interest attaching to some varieties of what are known, and grown as Florists' flowers, is measured by their cost, but in the cultivation of Annuals one feature is remarkably interesting, that is, their inexpensiveness. Thus, the same amount paid for a new variety in some departments of Florist's flowers, will suffice for the purchase of seeds of Annuals sufficient for the largest growers in this Colony.

Annuals are generally divided into hardy, half hardy, and tender. In most cases what has been considered as half hardy in other countries, we may safely treat as hardy, and to a certain extent the same remark applies to the tender annuals. But the following brief remarks are intended for out of door, or hardy annuals.

The cultivation of Annuals in Victoria is considerably simplified, as compared with the same operations in the British Isles. We have not here to contend with severe frosts of six or eight weeks duration, which would necessarily prevent any out-door operations in the flower garden for a much longer period even than that; but we have here a climate, a temperature, so moderate that we can cultivate some of our most beautiful annuals during the greater portion of the year, and in some instances, and under some circumstances, may have them in perfection during the whole of the year.

It is this particular feature of the subject that requires our attention. It has been cus-

tomary in most Anglo-Saxon communities, to be guided in these matters by codes and calendars, and until we can dispense with these formulas we shall not see our gardens so gay with *blossoms of Annuals* as we might otherwise very reasonably expect. We are all of us aware of the fact that there is a *natural period* for sowing the seeds of Annuals. The most natural period for sowing is during the Autumnal months. This we repeat is Nature's season for sowing, and as it is ours to assist Nature, we may reasonably expect, in this particular branch of Floriculture very pleasing results, if we attempt to produce a bloom at a time when Nature, left alone, shall have done with that particular plant for the season.

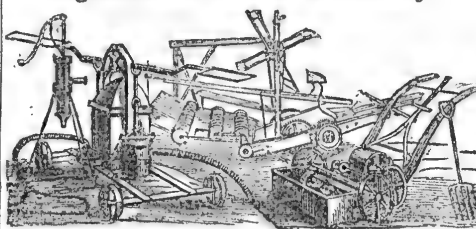
To attain this very desirable object, it may be necessary to state, for the information of our amateur friends, that it is of the utmost importance to have our beds, borders, or plots in which plants are to be grown, well dug, well manured with good old manure, and wherever practicable to cover all sowings with prepared maiden earth or fine new soil. In borders so prepared it matters not when the seed is sown, I have sown five or six times in the course of the year with satisfactory results, and to all interested in the cultivation of these plants, I beg to submit the following:—

The most essential point is, that the earth be rich, from the very circumstance that the plants to be grown are Annuals, and require, if grown to perfection, rapid development of leaves and flowers; and this cannot be effected without the stimulating properties of a highly manured soil. I would also urge on all cultivators the desirability of sowing where the plants are to grow and flourish. Transplanting is not to be depended on in this country, and where it is practised it requires much more attention than can at all times be bestowed upon it. If it is practised at all I would suggest that it should be from the seed plot in the border, to some secluded spot where, if the plant survives, it might be allowed to seed, as I would not allow any to seed in the borders themselves but remove all as soon as the best of the blooming is over, and sow again either with the same or some other variety.

The times for sowing will suggest themselves by circumstances, such as, when you wish to have them in bloom, or when the weather is moist, and the watering pot may be dispensed with. The only subsequent attention requisite is, supposing you have sown where the plants are to remain, to thin out whilst the plants are young, and after thinning apply a little fine earth about those remaining, as this will tend to strengthen and support them until large enough to be supported by stakes and tying, where this is needed. Do not leave too many plants, as crowding is detrimental to perfection.

Sow at least four or in some cases six times or oftener in the year; sow wherever you have vacant spots; sow in every eligible spot, always bearing in mind, that *where weeds grow, flowers will grow*, and none with so little attention or care, or with more certainty of success, than our popular Annuals. Do not allow them to remain after the blooming season, rather remove them and sow again, varying the variety at pleasure. By this means we may have our gardens bright and beautiful during the greater portion of the year. There is no mystification here, the thing is so simple,

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and is comprised in so small a compass, that it might be by some considered as unnecessary to devote so much attention to it, but this objection we would meet by a reference to the majority of gardens where flowers are grown, where we find so little in the way of blooming plants, when they might be in profusion. Let us not be satisfied with blooming a variety once in the year, when we can by a judicious system of repeated sowings obtain a succession of blooms of some of the most beautiful species, possessing the most delicate hues and variety of form, but of fugitive duration. These may, by adopting this practice, be had in all the pride of perfection, when otherwise we might look in vain for anything more beautiful than the dead and dying debris of by-gone beauty, or the unsightly, but inevitable weeds. The season of flowering is prolonged, the attractions of the flower garden are multiplied, and success is so certain, that the surprise will be, why we have not practised it before. I may remark that there need be no difficulty in selecting sorts on which to try these experiments. Our colonial catalogues contain already a large number suitable for the purpose, and additional species and varieties are being introduced from time to time, and as more attention is paid to their cultivation, I see no reason why we should not have in this country as large or even a larger collection of hardy and half hardy Annuals than are to be met with in any other country possessing and practising this particular characteristic of civilisation.

It might perhaps be expected that I should add a list of names of varieties, but the catalogues of the seeds sown will furnish a large number from which selections may be made according to the taste and opinions of those wishing to practice these simple suggestions. I might say that I have been more than amply rewarded in so many instances, that I should not be able to give all, and therefore I would say, try with any you have, or with any you can procure, and you may depend upon success.

At the present time I have a considerable number in perfection, and such has been the success attending the experiments on those I have tried, that I regret not having tried the same thing with many others. By success, I wish to be understood as having obtained blooms in perfection at what have hitherto been considered unseasonable times, and in such profusion that I have been led to consider all times seasonable when this result is or can be obtained.

Nor should we forget, that amongst Annuals the student of Botany may find at almost all seasons, representatives of a vast number of orders and genera, and by following out the above suggestions, this interesting branch of the science may be greatly extended, and the interest attaching to it be brought within reach of those who could not otherwise study the living growing specimens; and no one who delights in these things will like to keep those delights to himself; and, speaking for myself, I would cheerfully hail any and every improvement, or attempt at improvement, in the culture of this or any other class or tribe of plants, and all who delight in studying those lessons should do all they can to induce others to come and study with them, and by this attempt at least to lead others along the flowery path of Nature, forth to Nature's God.

HORTICULTURAL CHEMISTRY.

HYBRIDIZING OR CROSSING.

WE are indebted to the Greek for the terms *Hybrid* and *Hybridize*, similar in meaning to *bastard* and *bastardize*, which we have from the Armoric, through the French—in a word, a hybrid is a cross-breed, or mule, between two sorts or two varieties, as when a yellow cage canary (never found in a wild state) pairs with a siskin or a goldfinch; or as when the *Viola tricolor* is crossed with the *Viola grandiflora*, producing the endlessly sporting florist's flower, Hearts ease or Pansy. The most prejudiced opponent of book-gardening will surely admit, that it is greatly better in practice, to go upon a foundation of facts, than to dash about at hap-hazard, like an Astronomer sweeping the sky for comets. So far, however, as the subject of hybridizing is concerned, the facts ascertained, constituting the physiological botany as a foundation, are scarcely, and by no means so clearly defined as we could wish,—many mysteries remaining unsolved,—for when we follow out the processes of animal or vegetable life to their secret springs, we uniformly come to points we cannot resolve, and barriers we cannot overleap. In order to render the present discussion more interesting, I shall dip briefly into the Physiology, following the recognised eminent authorities of Mirbel, Adolphe Brongniart, Baillard, and Robert Brown.

In all phenogamous plants, their flowers possess organs capable of being impregnated, analogous to the egg-organs, (*ovaria*) of animals; and organs capable of impregnating, that is, of imparting the elements of fecundation to the contents of the egg-organ, or seed organ (*ovarium*). What may not inappropriately be termed the male apparatus in flowers, is in most cases a short slender slip shooting up from the inner base of the petal ending in an oval substance termed the anther. Now this anther contains numerous minute dust-like grains, termed pollen, which is the male element in fecundation, as we shall presently see. The pollen is usually coloured, being bright yellow in the rose and the lily, and purple in some varieties of tulips; in other cases, it is white or brown. The grains of the pollen are described by M. Guillemin, as minute bladders filled with granules, or extremely minute particles, which are smooth and dry in the pea, the potato, gentian, spurge, pinks, and grasses, including wheat, oats, and barley; or covered with very small knobs, giving out a clammy fluid, as in mallow, gourd, sunflower, chicory, dandelion, and convolvulus. Upon the dry grains of pollen being exposed to moisture, they change from round to elliptical; the viscid grains burst and scatter a liquid clearer than water, having millions of granules swimming about in it with a circulatory motion. Signor Amici has seen these continue this motion for four hours.

What may be termed the female portion of a flower, consists of a cell or seed vessel of a rounded form, ending upwards in a short stem termed the pistil, the summit of which is usually more or less moist. Accordingly when the flower is moved by the passing air, or when an insect or honey bird shakes the ripe anther, the grains of pollen fall upon the clammy summit of the pistil, where the interesting process of fecundation commences; by

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the chemical action of this viscid secretion on the pollen grains. In 1823, Signor Amici discovered that the grains of pollen when shed on the clammy summit, do not burst as they do in water, but in a few hours shoot out one or more very delicate tubes, which penetrate the tissue and extend themselves down through the interior of the pistil, as far as the seed organ, where they expand between and around the nascent seeds, serving, it is probable, to convey thither the granules which at least enter into the tubes. R. Brown again found in the Asclepiadæ, that the grains of the pollen emit a number of extremely slender threads, each being the pollen tube of a single grain; and not more than the 1.500th of an inch in diameter, producing, as he thinks, a stimulating effect on the nascent seeds, without penetrating their texture. On the other hand, M. Adolphe Brongniart observed these slender tubes to penetrate deeper and deeper till they find their way into the interior of the nascent unimpregnated seeds, by means of a delicate membranous tube, at the end of which is a minute vesicle forming the radicle. (*Annales des Sciences Naturelles*.)

Again, M. Balliard traced coloured liquids sucked up by the summit of the pistil, along the vessels in that organ, till they arrived at the nascent seeds in the ovarium; and in the same way, it may be inferred that the granules or their fluids are conveyed thither for the purposes of fecundation.

Such then, in brief, is the Botanical Physiology of impregnation, so far as eminent savans have been able with their imperfect means to trace the process; and accordingly in our artificial operations to hybridise for new sorts, we must conform as nearly as possible to the details just given. The ultimate chemical analysis of the anthers with their pollen and the nascent unimpregnated seeds, gives us varying proportions of carbon, oxygen, and hydrogen, the two last representing water; and besides these most commonly an odoriferous element derived from phosphorus and ammonia. But any knowledge we may obtain from analysis, furnishes little help in the practice of hybridising. From Balliard's experiments however, I would infer, that when the pollen of one variety is placed dry on the pistil summit of another variety, and then moistened slightly with various chemical solutions, numerous unexpected and interesting results would follow.

The whole subject grows in interest as I proceed, and will require, most probably, more than one paper more to do it justice.

J. R.

The Alder Tree and the Mosquito.

FROM the pools of the Homesteads issue at night into the farm houses of "Merrie Old England," a host of tiresome, buzzing, stinging Gnats, "making night hideous" to its tired, hard-worked, and badly paid inmates. The little latticed window is closed, and so are the old chintz bed curtains; but it is of no avail, the tormentors keep their victims awake, and sleep, "tired nature's sweet restorer," cannot be obtained, except by those who know how to combat with the villainous insect. The only remedy, and it has proved certain, is to obtain a branch of the Alder Tree, which grows luxuriantly around and about the pool,

bruising the leaves, and hanging the branch at the head of the bed. Then, when Autumn approaches, its clusters of berries are gathered and made into wine; and the poor husbandman, after awhile, sits by his fireside, whilst the good dame brings out the old delph cups, and the liquor being hot, rich and spicy, they quaff and they laugh, forget the hardships they have to endure, and do not either covet the fashionable wines of the Moselle, or the fire-water of Bullarook Forest.

Perhaps the application of the branch of the Tree might have the same effect upon the Mosquito; and if so, well and good. It does and will grow rapidly in this Colony, and around the swamps they might be planted. There is no trouble in its cultivation, as small slips will quickly strike root. No pruning is required. The berries are easily gathered, and the wine is wholesome, cheap, and nutritious.

J. M.

Societies.

Geelong & Western District Agricultural and Horticultural Society.

EXHIBITION OF AGRICULTURAL PRODUCE, FRUITS, &c.

We were much gratified on entering the Exhibition sheds of this Society on Thursday, the 21st ultimo, to find that the cold winds and heavy rains of the three preceeding days had not led to any shortcomings in the number of entries, nor deteriorated the exhibits. It was most cheering to see the tables literally groaning under the weight of magnificent Grapes, Apples, Pears, Quinces, Strawberries, &c.; and we do not wonder at the surprise expressed by our Melbourne contemporary, at the apathy displayed by the people of Geelong to an exhibition which concerned them so much. Never during the day was the shed half filled, and the receipts must have fallen very far short of the expenditure for absolute necessities, letting alone the cost of prizes, &c. Many have complained that sufficient publicity was not given to it, but the same means of making the public acquainted with it was followed as in all other cases; and the town was plentifully placarded a week or more prior to the day of exhibition, so we must attribute the indifference of the public to some other cause, and that is, we presume, a carelessness about supporting anything which will involve any extra exertion, however slight it may be. The day was surely tempting enough to allure the fair sex, and Wilton's band was of itself an inducement to wile away an hour or two in the grounds, irrespective of the claims which the Society has on the public for support.

Our attention on entering the yards was directed to a very interesting exhibition of Harness and Saddlery by Marsh and Johnston. The Saddles were light, well-shaped, and apparently admirably put together, and they took a first prize for each; the Buggy Harness exhibited by Mr. Allinson, received a silver medal.

In *Agricultural Produce*, Mr. Albert Hancock, of Colac, took a gold medal for white Velvet Wheat, and also for best Wheat of any description (Class 3.) For Spring Wheat, the silver medal, Mr. James McAndrew, of Bellerine, was the successful competitor. For Tartarian Oats, Messrs. William Cornish, of Queenscliff, and Mr. James Stoutt, of Murgheboluc, took gold and silver medals. Mr. Thomas Bray's Onions and Turnips were very fine and took first prizes in each class.

In *Dairy Produce*, there was only one jar of Salted Butter, exhibited by Thomas Powell, Esq., Colac road, and two entries for Fresh Butter, in

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which, as in the former case, the same gentleman took first prize. The first silver medal for the best bale of Scoured Fleece Wool, was awarded to Alfred Douglass, Esq.; that of Mr. Foster Marahall, of the Breakwater, receiving honorary mention. Mr. Corrigan's Lambs' Wool was, as usual, first rate, and won a first silver medal, Mr. Douglass' exhibit being honorably mentioned.

In the *Fruit Department*, the Grapes were of course the most prominently conspicuous, and there were some good collections. The prizes in Table Grapes, Coloured and White, were awarded to J. Buckley, Esq.; Mr. H. Dardell, Scheffle Brothers and Webber, Mr. McKenzie, having honorary certificates in both classes. These were very fine Grapes, well coloured bunches, large, and highly flavoured. In the collections of Grapes, Messrs. J. and J. Webber were first; Scheffle Brothers second; and Messrs. Dardell and Pettavel had honorary certificates. Messrs. Webber exhibited Burgundy, Hermitage, Reislung, La Gloire, Black Hamburg, Black Portugal, Black Prince, Red Frontignac, Black ditto, Esparto Carrighan, Souvignan, Obro, Chasselas, Gouais, Tokay, and others. The other collections were somewhat similar, Mr. Dardell having in addition Zante Currants, and Mr. Pettavel having splendid Muscat of Alexandria, scarcely ripe, Wantage, &c.

Apples were good, there were some 10 exhibits of 24 table apples, and 11 of kitchen or baking apples.

Mr. Buckley obtained the prize, and Mr. Thomas Bray second, for table apples. Other exhibits looked much finer to the eye than these, but when subjected to the knife of the Judges did not prove equal to their look; it was the same in the kitchen class, the largest apples did not get the prize, but some very fine Mobb's codling and others took it, and well they deserved it, being firm and crisp to the core. Mr. Leven was first and Mr. Brequet second. Messrs. Brequet and Webber exhibited fine samples in the classes of collections, but we regret that the precaution was not taken to name the varieties. Exhibitors, Nurserymen especially, may rest assured that the naming of their fruit would be a source of great pleasure to the public and profit to themselves. For instance, not a Pear was named, although the collections were first rate, and the consequence was that many who enquired the name of such and such a Pear could not get it, and therefore could not order it from their nurseryman. Messrs. Leven, Dardell, and Webber were the successful competitors in these classes. Mr. A. McKenzie obtained the prize for Figs and Damsons; Mr. Dardell for Plums. Peaches were past their best, and were therefore not numerous or fine. Some of the finest Quinces we ever saw were exhibited, not for competition, by Mr. Roadknight. The collection of Fruits was very inferior, comparing them with other exhibits of fruit. Mr. Leven, who was first, had Strawberries, Grapes, Melons, Apples, Pears, Peaches, Figs, Plums, Melons, Medlars, Loquats, Mulberries, Almonds, Passiflora Edulis, Cape Gooseberry, Elderberry, &c. Mr. Wyatt's collection of Melons was very good, each being named, and true to name, very interesting, as giving information to visitors. There were enormous Pumpkins, Vegetable Marrow, and other things, to refer to which in detail would occupy too much of our space, and we can only conclude our remarks about fruit, by saying that it did the exhibitors infinite credit.

At this season of the year, we could not expect any very great display of Flowers; but the splendid collection sent in by Daniel Bunce, Esq., of the Botanical Gardens, amply compensated for any shortcomings. From top to bottom, the centre table was ornamented with a row of his choicest plants; which, interspersed amongst the tempting exhibits of Fruit, gave a very handsome appearance to the building. We also noticed groups here and there in various parts of the sheds from the same source. We were gratified to find that the Judges besides expressing their approbation of the kindness of Mr. Bunce, also awarded him what he so richly deserved

an Honorary Certificate. The magnificent collection of *Conifera* at the lower end of the shed attracted much attention, not only were there very many rare and noticeable plants, but all were healthy, and exhibited unmistakable signs of careful and skilled treatment; we should particularise in this group, *Thuopsis borealis*, *Banksia grandis*, a species of *Podocarpus* from Auckland; *Abies Menziesii*, *Cephalotaxus Fortunei*, and the beautiful *Salisburia adiantifolia*.

The owner, Mr. Charles Wyatt, of Fyansford, deserves especial praise for this interesting portion of the Exhibition, for which the Judges awarded him an Honorary Certificate.

In *Pot Plants*, there were four entries for the best specimen plant in flower, the first silver medal was won by Alfred Douglass, Esq., for a good *Gesneria tidea-gigantea*; the second by Mr. Charles Wyatt, for *Lilium lancifolium album*. Mrs. Wyeth was the only exhibitor of a collection of plants in flower, and she obtained only a second prize, as they were not particularly noticeable. The *Gloxinias* of Mr. Douglass took first prize, for although two out of the four were indifferent, the remainder were surpassingly beautiful; the Judges could not have hesitated for a moment in their decision. The *Fuschias* exhibited were poor. Of *Achimenes* there were two entries, A. Douglass taking first prize for some good plants. No *Roses* worthy of a prize were shown. Of *Hollyhocks*, three distinct varieties were required, but the Judges failed to find them. The *Cut Flowers* were magnificent, and there was an improvement in the method of exhibiting them, loosely, by which the merits of each one could be discussed. The collection of William Ball, Esq. (by his gardener, Mr. Skinner,) took first prize, and that of Mr. Charles Wyatt, second; although to our taste and was too crammed to be good. No. 4 was more worthy of it.

The bouquet of Mrs. Thomas Powell was just what a hand bouquet should be, small, compact, though not compressed, and with colors blending well; it showed a vast improvement on all previous attempts, and took a second silver medal.

Messrs. B. & S. Johnson, Preston, near Melbourne, exhibited six Dahlias; Miss Caroline, Queen of Lillies, Bessie, Beeswing, White Standard, and Triumph, for which they won a second prize.

The *Zinnias* shown by the same parties among the Extras, ten varieties, were very fine, and a first prize was recommended.

Mr. Thomas Adcock, who, we regret to find, was prevented by severe indisposition from contributing so largely as is his custom, sent in a stand of lovely Dahlias, which received an Honorary certificate, as did six plants exhibited by Mr. Charles Wyatt, for beauty of foliage. The French and African Marigolds by Mr. Thomas Bray, were good, and prizes were recommended; a second prize was also recommended to Mrs. Wyeth, for a collection of plants, among which were the Candle Plant, and *Polygonum platycladum*, and to Thomas Cain, of Kardinia, for his model of a Flower Garden. We have a distaste for these misnamed *model* Flower Gardens,—they are worthless, but to fill up the exhibition shed. Some splendid Willows grown on the Moorabool by Mr. Webber, were recommended for a prize, and a collection of very beautiful and tastefully manufactured baskets from Colonial grown willows, very deservedly took a first silver medal; they were the best we have seen in Australia, and the maker, Mr. Thomas Sheekle, of Mercer-street, deserves infinite credit for his workmanship,—there were clothes baskets, ladies' work-baskets, flower-baskets, children's chairs, and indeed baskets which we are puzzled how to describe. We would here mention two very interesting features in the exhibition, viz., Mr. Clarkson's collection of imported agricultural Seeds; and Messrs. Handyside and McMillan's large collection of seeds, arranged under the various heads of Cereal, Natural, and Artificial Grasses, Forage Plants, Plants cultivated for fixed Oils, Dye Plants, Plants yielding Fibre, as *Linum*, *Malva*, &c., Medicinal

Plants, &c. The Judges unanimously awarded the exhibitors an honorary certificate, and desired further to express their approbation of the cleanliness of the seeds, and the accuracy of nomenclature. We regretted they were not placed in a more prominent position, but nevertheless they attracted considerable attention.

In *Vegetables*, the prize for Carrots and Parsnips was awarded to Thomas Powell, Esq.: Mr. Bray's Beetroot was well grown, and well coloured. Messrs. Shefflie Brothers, of Germantown, exhibited some magnificent Cabbages, which took the prize; but the Savoy of Mr. Sladen, to which an honorary certificate was awarded, were first rate.

In *Wines*, Mr. Pettavel took a gold medal for the best sample over one year old, and the Messrs. Webber, of the Moorabool, for the best collection.

The Judges were—

Agricultural Produce—Messrs. Donald McLean William Law, and John Leigh.

Dairy Produce—Messrs. George Wright, Joseph Tolson, and Thomas Ogilvie.

Fruit—Messrs. Middlemiss, W. W. Miles, and William Hardy.

Vegetables and Flowers—Messrs. Bunce, W. Batson, and S. Hannaford.

Wines—Messrs. Haines, A. Seidel, and L. Kitz.

Horticultural Improvement Association.

In consequence of many of the members being engaged in the preparation of exhibits for the Show of the Geelong and Western District Agricultural and Horticultural Society, to be held the following day, the monthly meeting on the 21st ultimo, was not so largely attended as usual. Some twenty members however were present. The President, Alfred Douglass, Esq., took the chair.

Mr. Middlemiss, the Honorary Treasurer, after stating the financial position of the Association, congratulated the members on the success which had attended their first exhibition on the 27th ultimo, more particularly as many of them had considered it premature, in the early existence of the Society. He considered that the progress of the Society depended entirely on the success of that Exhibition, and he need scarcely say he had little fear on that score now. It had been remarked that it was impossible that two Societies could exist in Geelong,—that some jealousies might creep in which would prevent their working in unanimity together; but it was gratifying to have to mention that the Secretary of the old Society, James Campbell, Esq., most kindly volunteered his services at the Exhibition of the "Horticultural Improvement Association," and moreover that several of our members had been chosen to act as Judges at the Show of the "Geelong and Western District Society" to be held the following day. He would wish the Society to notice the kindness of those gentlemen who came from a great distance to act as Judges, viz., Mr. Smith, of Melbourne; Mr. Elliott (Lang and Co.), of Ballarat; and Mr. Peel, of Bellerine; the former gentleman liberally contributing the travelling expenses allowed him to the funds of the Association. The thanks of the Society were also due to Mr. Nicholson for the loan of timber for the Exhibition tables. He further begged to propose a cordial vote of thanks to Mr. Bunce, the Curator of the Botanical Gardens, for the valuable collection of Pot Plants furnished by him at the Exhibition of the Society, and which so very materially contributed to its success.

Mr. Clarkson remarked that so far from the establishment of the new Society being detrimental to the old, he would mention that he had just come from the grounds of the Geelong and Western District Society, where he and other members of the Committee had been engaged in providing additional accommodation for the larger number of entries than usual.

Twelve new members were proposed, viz.,—Abbott, Esq., (National Bank), J. Cowie, James Campbell, J. H. Dardell, J. Gates, W. Grundy, A. Douse, Thomas Jenyns, J. R. Morris, Miss Stretch, George White, and J. Wadleton.

The beautiful work in course of publication by Thomas Moore, Esq., the "*Floral Magazine*," was ordered from the commencement, as well as three copies of Robert Hogg's "*Fruit Manual*."

Daniel Bunce, Esq., exhibited interesting plants of *Greevesia cleisocalyx*, a new genus and species discovered in the Burdekin in 1848, specimens of Stuart's Bamboo from Lake Torrens, and Camel Grass brought from India by Mr. Landell.

The accompanying paper on the "*Cultivation of Annuals in Victoria*," was then read by Mr. Batson, of Herne hill. (See p. 38.)

The paper was illustrated by a magnificent Bouquet of Annuals, and the thanks of the meeting were unanimously passed to Mr. Batson, for his valuable contribution.

Mr. Sydney Powney, of Newtown, gave notice that at the next meeting on the 24th April, he would read a paper on "*The Culture of Pears*."

Ballaarat Horticultural Society.

This years exhibition was held in the large hall of the Mechanics' Institute, on Friday, the 15th ultimo, and in spite of the unfavourable weather which preceded the day of exhibition, the exhibits were remarkably good; there was ample space for everything, and visitors were enabled to inspect and criticise every article. The exhibition was indeed a success. On three tables up the centre of the hall were displayed Flowers and Plants, all more or less choice; the centre table containing the *Fuschias*, in which Mr. W. Appleby took all the prizes in the Amateur list, and Messrs. Lang & Co. the chief ones in Class A open to all competitors; one table was devoted entirely to the exhibits of Messrs. Lang and Co., and amongst other rarities, there was a fine specimen of *Mimosa Pudica* (Sensitive Plant); some Tea trees in pot raised from some Hong Kong seeds received from Dr. Mueller, a young plant of an *Erythrina*, of the species which sheltered Stuart in his explorations; and *Farfugium grande* and *Gesneria Zebrina*. In fact Messrs. Lang and Co. appear to have come off victorious in almost every class, whether for Perennials, Petunias, Cockscorns, *Gloxinias*, *Achimenes*, Ferns, Rare plant, and collection; nor were they less successful in Class B,—*Cut Flowers*. Mrs. Ronalds bore off the first prize for a single bloom of Dahlia; Messrs. Lang & Co. for six; and J. Kelly for twelve varieties; and among the Amateurs, Mr. Armstrong carried away first and second prizes for six, three, and single blooms.

In *Cut Flowers*, the prize for twelve varieties of Rose was taken by Dr. Kenworthy, and he also took prizes for the best six and three in the Amateur division.

The Show of Fruit and Vegetables was capital, and proved that this district can successfully compete with any other in the colony. In Dr. Kenworthy's exhibits were fine specimens of the Edible Egg plant, luscious looking Tomatoes, ten kinds of Vegetable Marrows, ponderous Squashes and Pumpkins, Cape Gooseberries, &c. In Potatoes, Carrots, Cabbages, Onions, Beans, Rhubarb, the exhibits were generally excellent; the specimens sent by Mr. Salmon being among the best, although too late for competition. In Fruits there were Pears and Peaches from Lal Lal (Fiskens); Peaches and Ribston Pippins from Kal Kal (Simpson's); Grapes from Kardinia Nursery (Adcock's); big Apples from Ronald's, splendid Mulberries from Scott's (Buninyong); more Apples from the White Flat (Hyam's); in fact, the spread was at once a token of the skill of the Horticulturist, and the resources and progress of the district.

But here again, as elsewhere, in spite of the exertions of the Committee to make every thing go off

well, the receipts did not anything like pay the expenses; truly, as the *Star* (from which our report is abridged) remarks—"The Society cannot succeed without public patronage, and even public-spirited Committee men do not possess inexhaustible purses."

Buninyong Horticultural Society.

The Autumnal Show was held on the 22nd ultimo, and considering the counter attractions of the Agricultural Society's Exhibition in Ballarat on the same day, was well attended.

The display was, in each department of Fruits, Flowers, and Vegetables very excellent; the stage of the Concert Room in which the exhibition took place, instead of footlights, was decorated with groups of cut roses, embracing upwards of twenty of the finest varieties; these, with a magnificent display of choice Dahlias, were sent to adorn the rooms by Mr. James Kelly, gardener, of Ballarat. The Judges in each class, were competent and impartial, whilst the Secretary, Mr. Goode, conducted the business in a courteous manner.

The exhibits for prizes, both in Class A and B,—Pot grown Plants and Cut Flowers, were few. In the first Mr. Seaman took the prize for four Fuschias, and Mr. Kerr for a single specimen. Dr. Kenworthy, President of the Ballarat Horticultural Society, to whom the florists of this district are much indebted for the introduction of many beautiful Exotics, secured first class prizes for twelve varieties, and for six varieties of Roses, also second prize for a single specimen. The first prize for a beautiful blossom of "Souvenir de Malmaison," being awarded to A. Fiskien, Esq., of the Lal Lal. The Grapes, Plums, and Alpine Strawberries, produced by Mr. Kerr were much admired, and for these, together with Cucumbers, Celery, Onions, and Leeks, he took first prizes. Peaches, juicy, luscious looking fruit, and Cooking Apples, very superior, grown by Mr. Innes, deserved the award. Mr. Scott, of Scott's station, sent Mulberries, Dessert Apples, and other fruit. In Vegetables, Mr. Seaman excelled in Rhubarb and Spinach, and so he did in the production of the most valuable vegetable or fruit ever grown in the world either for the table, dessert, or medicinal purposes, when its properties are understood, viz., the Tomato. Mr. Eason carried away first prizes for Cabbages, Lettuce, Peas, Scarlet Runners, Turnips, and other esculents.

There were many other contributions, amongst them none more prominent than those of Thomas Sheppard, Esq., a gentleman so well known and appreciated for his attention to, and love of, the World of Flowers.—Communicated by "Velocipede."

North Gipps Land Agricultural and Horticultural Society.

The success which attended the First Annual Exhibition of this Society on the 5th instant, was unquestionable, both in the emulation displayed by exhibitors, and the interest evinced by the public.

The blood Entire belonging to Mr. Norman McLeod was much admired, as was also a yearling Draught Filly belonging to Mr. Montgomery, and this gentleman was also honorably mentioned for Mares and Young Stock.

Mr. Johnson, M.L.A., took three out of four prizes for Cattle, viz.:—For best bull of any breed; best Colonial-bred cow, and best cow of any breed. Mr. Cunningham winning the fourth for best Colonial-bred bull of any breed above two years old.

Mr. Johnson's imported bull, was "Sebastopol," dam "Rosemary," by "Sebastian," and he gained the prize for the best yearling bull at the Border Union Agricultural Show in Coldstream, in 1856, and the second prize for bulls of all ages at the same Society's Show in Kelso, 1857.

The imported Cows exhibited by Mr. Johnson, were bred by Mr. William Field, of Tasmania, out of pure Durhams, imported from England by the Circular Head Company.

Sheep were not particularly fine. The Poultry was of a high class; and of Farm and Horticultural Produce, the entries, although limited, were excellent; Mr. W. Craig winning the prize for Wheat, and Mr. J. M. Wilson for Barley. The Chinese farmer, Tan Gee, bore off the award for Onions, and Mr. John Campbell's Pumpkins excited much surprise on account of size.

In Horticultural Produce, there were—Grapes, Peaches, Apples and Pears.

In Cut Flowers, Mr. King competed successfully for Roses, Dahlias, and Cut Flowers, Mr. Sibbald exhibiting the prize bouquet. No Pot Plants were shown.

Prizes were awarded to—D. M. Cole & Co., for best Swing Plough; ditto, best set Harrows; W. Smith, best Wheel Plough; J. McMillan, best collection Farm Implements.

Albury and Murray River.

The Sixth Annual Exhibition of Stock and Produce was held a few days since at Wodonga; the entries were not as numerous as formerly, owing, it is said, to the Exhibition being held on the Victorian side of the river, instead of, as formerly, at Albury.

In the Yards there was a tolerable muster, and the show of Draught Stock was superior to that of former years.

In *Horse Stock*, Mr. T. Henty's 3 year old cart Stallion, "Young Drayman," by "Black Champion," was a very fine animal, and took first prize. The cart mare, "Blossom," exhibited also by Mr. Henty, took second prize, and was much admired.

In the *Cattle* department, Mr. Hore's Durham bull, "Duke," which cost his owner £600, was considered a fine animal and took first prize. Mr. Wilson's yearling bull (Durham) and heifer were much noticed and commended.

In *Produce*, the show was remarkably good, taking the lateness of the season into consideration; Mr. Waite took the prize for the best Wheat, and Mr. Fallon for second best, Lucerne and Clover. The Maize was particularly fine, and some canes of the Sorghum were nearly twelve feet in length.

Amongst Vegetables there was nothing much worthy of note; but in Fruits, the Grapes were magnificent, some bunches weighing over 5 lbs. Apples and Quinces were also splendid, Mr. Roper taking a prize for the latter.

The exhibits of Wines were not so numerous as on former occasions—there was *Hermitage* and *Reisling* and Muscatel, specially approved of by the Judges.

Two very pretty bouquets, each received a prize.

Messrs. Ransome and Sims exhibited some Ploughs, and there were also some Harrows, and a patent Horserake on the ground.

Port Phillip Farmer's Association.

The fourteenth annual general Exhibition of Grain, Seeds, Farm Produce, Wines, &c., took place at the Exhibition Building, Melbourne, on Wednesday the 27th ultimo, and was very numerously attended.

The grain shown was fully equal to the samples brought forward in former years, and the best were perhaps superior in quality. The wheat (from Adelaide) which took the first prize, weighed 68½ lb. to the bushel, as did that from Mr. Patterson's farm, at Cranbourne, to which the second prize was adjudged; the third prize was gained by Mr. J. Dewar, for a very fine sample 68 lb. to the bushel. There were 18 exhibitors in all, and of the samples shown by them, thirteen had previously taken prizes at provincial exhibitions. The oats were very good; the first prize for other than potato oats was taken

by Mr. John Dewar, with an excellent sample of Tartarian, 43½ lb. to the bushel; and the second prize was awarded to Messrs. Junor, for some heavier oats (45½ lb.), but their colour (being weatherstained) did not please the judges. A superior lot of potato oats (50½ lb.) gained the first prize in this class for Mr. C. Walker. The barley exhibited was good; Messrs R. and P. Turnbull taking the first prize for English, and Mr. Thomas Wright for Cape barley. The first prize in early potatoes was adjudged to Mr. H. P. Beaton, and the prizes for seedlings in both classes (1859 and 1860) were awarded to Mr. P. J. Burton, a scientific cultivator of the potato, who has already produced several good and useful varieties. Four samples of flour were shown, all very good; two from Port Fairy, one from Adelaide, and one by Mr. Samuel Ramsden, of the Carlton Flour-mills, the latter receiving the highest prize. Messrs. Passelaigne, of Geelong, took the highest honours in both red and white wines; and the samples exhibited were of a quality likely to command a market in Europe when in time they shall have matured their arrangements for consulting the fashion of the day as to colour and other specialities. Mr. Cole's collection of grapes, from the Richmond Nursery was, under all the disadvantages of the present season, really excellent, especially the black Hamburg; and more than one comparatively new and fine description was shown, as the Damascus, a heavy producing grape, and the Chasselas, of exquisite flavour. In Mr. Cole's 50 bunches there were 11 varieties. Messrs. Kilpatrick's gift for the best cheese was taken by the parcel exhibited by Mrs. McFarlane. The show of grain, pulse, natural grasses, cereal grasses, and various economical plants from the Government Model Farm were much approved, but, of course, were not brought forward in competition. In the Model Farm compartment there were some gigantic specimens of the white sugar beet, which must undoubtedly be some day a source of great profit to the cultivators; also some large globe mangold-wurtzel, and some fine turnip-rooted beet. At the conclusion of the exhibition, the prize bearing samples were sold by auction by Mr. McCaw; the best wheat (exhibited by Messrs. W. Bayles and Co.) realized from 22s. to 23s. per bushel, and the second-prize wheat brought 17s. to 20s. The first-prize oats fetched as high a figure as 8s. 9d., and 7s. 3d. was given for the second in rank; the potatoe oats bringing 6s. 6d. The malting barley fetched a variety of prices, from 14s. to 27s. for the best; and from 8s. 6d. to 21s. for second quality; the prizes for the Cape barley ranged from 8s. 6d. to 11s. Other first prize articles brought prizes as follows:—Beans, 7s. 6d.; field peas, 10s. 9d.; garden peas (an excellent sample was exhibited by Mr. Thomas Miller, of Saltwater River), 11s. 6d.; tares, 11s. 6d.; onions, 6s.; potatoes, from 6s. to 21s. Mr. Ramsden's flour fetched an extraordinary price, being at the rate of £44 per ton.—*Argus*.

Ballarat Agricultural Society.

This Society held its Show of Agricultural and Dairy Produce, Poultry, &c., on the 22nd ultimo; but owing to the Exhibition of the Buninyong Horticultural Society taking place on the same day, and the Flower Show of the Ballarat Society on the week preceding, it was not so great a success as heretofore. Some of the exhibits, however, were indicative of good husbandry, and the Society has evidently done much to stimulate and develop the riches of the soil.

In the Agricultural Department, Messrs. A. C. Kerr & Co. were large exhibitors, and Mr. John Tynan as usual bore off the first prize for the best Plough, beating several others. A local manufactured Scarifier by the same gentleman was also awarded a prize. Mr. Proctor, of Sturt-street, exhibited some neat light vehicles, one of which, a Tilbury, was much admired. Mr. Oddie exhibited

one of Messrs. Robinson's well known Reaping Machines, with back delivery. In the Dairy Utensil Department, Messrs. A. C. Kerr & Co. were large exhibitors, and a small Flour Mill, of English make, exhibited by the same firm attracted considerable attention. In appearance it resembles a coffee mill, and the wheat being placed on the top, the wheel is turned with the hand, when the fine flour falls into a compartment at the bottom of the mill ready to receive it, while the seconds or "sharps" find its way into another compartment, and the pollard into a third. The bran falls out at an orifice at the back of the mill. Considering the utility of the article, it is remarkably cheap. In the Grain department there was a very good exhibition, and the judges, we believe, had some difficulty in coming to a decision in the matter, as weight as well as quality was taken into consideration. The first prize for White Velvet Wheat was awarded to Mr. David Clyne, who in December last was awarded the first prize for the best 20 acres of Wheat. The present prize Wheat, we are informed, will yield about 45 bushels to the acre.

In the Seed and Flower Department, Mr. Lang had a choice and varied assortment of farm and garden seeds, as had also Mr. Nicholls and Mr. George Smith. In the Poultry department the collection was very limited, although the prizes offered by the society are numerous and liberal. The Potatoes exhibited were of a first-class quality, but many of the larger sorts were diseased in the heart. Messrs. Nicholls exhibited an early variety rather scarce, and known as the Prince Regent, which yielded about 12 tons to the acre. There was a good collection of both Mangolds and Onions, and Messrs. Crocker Brothers exhibited a sort of white Turnip, which was not awarded a prize, although they was the only exhibit in this department. The hay exhibited was of a good quality; the prize for the best was awarded to Mr. Branfield, of Smythe's Creek road, who consigned it to Mr. William Eaves. Subsequent to the show the latter gentleman disposed of it at £6 per ton, a tolerably good price.

The collection of Plants in pots was was one of the best features of the show. Mr. George Smith exhibited *Mimosa Sensitiva*; he also exhibited some sweet water Grapes of excellent quality. A beautiful specimen of *Hydrangea Hortensis Variegata* was also exhibited by the same gentleman. Mr. Lang, as usual, had a very good collection of plants, and to him was awarded the lion's share of the prizes. Among the plants exhibited by him was a choice specimen of the *Celestia Cristata*, or dwarf Cockscomb, and a *Clerodendron Apretion Atriatum*, a very pretty plant, some Gloxinias, and a *Lilium Lancifolium*, with spotted flowers; a *Wellingtonia Gigantea* also attracted some attention, as well as some extraordinary Rye-grass, among the seeds, which weighed not less than 41 lbs. to the bushel. The exhibition of Butter, Cheese, and Eggs was scarcely deserving of the name, and manifested a considerable falling off from the previous year. Mrs. Ronald exhibited a choice collection of garden fruit, and among the Apples were several which exceeded a pound in weight. Mr. Charles Seal was awarded a prize for a sample of Colonial Wine. Among the sundries, Mr. Roy, of Mount Bolton, exhibited some excellently burned bricks, a new branch of manufacture which he has introduced into that part of the country, and which were also awarded a prize. A very ingenious Swede, named Regnar, exhibited some artistic Pottery of his own manufacture, which was also awarded a prize.

Western District Pastoral and Agricultural Society.

An interesting and very successful Agricultural show, under the auspices of this Society, took place on the 27th ultimo, at Mortlake. The prize spring wheat weighed 66½ lbs. per bushel, and the winter wheat 65½ lbs.; indeed, all the exhibits of wheat

were good. Oats, also, chiefly potatoe, were remarkably fine. The splendid globe onions, exhibited by David West, and an excellent collection of vegetables of almost every kind, shown by Mr. M'Gregor, gardener to Mr. M'Arthur, of Menin-goroot, were much admired. The collection not only embraced many kinds, but the articles themselves were peculiarly deserving of merit. As a whole, the exhibits of agricultural produce were excellent: the hay, tobacco, beet root, and sorghum, inclusive of Mr. Burke's lucerne, showed what can be done by a little attention to cultivation.

In the Stock department, the most noticeable features were the Hon. Neil Black's entire, Wellington, and Mr. M'Arthur's horse, Young Wonder. These two horses were shown, but did not compete, as the owners did not wish to take the prizes from the farmers who had really good horses. The prize for colonial entire, was taken by Mr. Bromley's Young Douglas. Some nice cows were shown by Mr. Thompson, of Kielumlute.

Honorable mention was awarded to Thomas Shaw, jun., for an excellent sample of wool; and to John White, for a pair of plough horses.

The Dairy Produce exhibited was excellent, particularly the fresh butter, by Mrs. M'William, of Terang; and the salted butter, by Mrs. Hamilton, of Cairnlee. The judges were loud in their praise of those two articles.

Mr. Williams, of Warrnambool, had a steam threshing machine at work, which attracted much attention; it threshes 100 bushels an hour.

The proceedings of the day were closed by an excellent dinner, provided by Mr. Williams, of the Mortlake Inn, the Hon. Neil Black in the chair, Robert Burke, Esq., in the vice-chair. The usual loyal toasts were drank, and some information was gained by the speeches of two of the judges, Mr. Mack and Mr. T. E. Bostock. Regret was expressed by the hon. chairman and others that more of the farmers had not joined the dinner party. With this exception, there was no other occasion for regret.

Newstead Agricultural Society.

The Annual Agricultural Show was held on the 12th ultimo, and we learn from the "Mount Alexander Mail," was but poorly attended, and but few entries were made; nevertheless judging from the list, a good many prizes were awarded. The Horse Show did not demand any particular notice. Mr. D. Wallace took first prize for best draught Entire, and Mr. Cox's "Quiz the Wind," was deemed the best blood Entire. A great number of Cattle were exhibited, but there was no competition for best bull of any distinct breed.

The Poultry were good, Mr. M'Farlane's Spanish Fowls being especially worthy of admiration.

In Dairy Produce, fresh and potted Butter and Cheese were exhibited by Mrs. Powell and Mrs. M'Farlane.

There were a good many Implements and some Machinery on the ground, but perhaps not as many threshing machines as might have been expected, owing to their being engaged in threshing for the farmers in their respective localities.

The Fruits exhibited were good, especially the Apples and Grapes.

The Exhibition wound up with a dinner and ball in the evening.

Horticultural Society of Victoria.

At the monthly meeting of the committee of this society, held at the offices, 31 Swanston street, on the 3rd inst., M. O'Grady, Esq., in the chair, the committee of superintendence reported that the various contracts for clearing and fencing in the Horticultural and Experimental Gardens were progressing favourably, and expected they would be

completed before the close of the month. The hon. secretary was instructed to advertise for designs for laying out the gardens, offering premiums of £15 and £5 respectively for the first and second most approved, to be sent in under seal on or before the 17th inst. The report of the last exhibition was read and adopted, the amount of prize money awarded being £76 6s. 6d. A sub-committee was appointed to revise a schedule of prizes to be offered for competition during the next season, and to make such alterations as may be deemed necessary. Dr. Mueller reported that he had instructed the modeller of the fruits intended to be sent to England for exhibition at the World's Fair, to be held in 1862, to preserve the moulds, to enable this society to avail themselves of the opportunity of having duplicate casts, and so preserving specimens for the museum about to be established in connection with the Horticultural Gardens.

The Victorian Agricultural Society's Show.

This long expected event came off on Thursday, the 4th, at the Society's yards at Heidelberg, or rather we should have said, near to it; for the site in question is a substantially fenced enclosure with subdivisions, on the top of the rise, about a mile beyond the Ivanhoe Hotel. The committee have, with judgment we think, left all the timber to stand that was not absolutely in the way, thus affording an agreeable shade, that even in a warm autumn day, like this, was duly appreciated. The Show combined every kind of agricultural live and dead stock, with fruits, wines, grain, produce, &c., and appeared to give every general satisfaction, both to the public and exhibitors. To begin with the Horses—these were not numerous, and as the merits of most of them have been canvassed this season at former shows, we may spare ourselves the trouble of repetition. Mr. James's "Cromwell" took first prize in the aged entire draught class; Mr. Thos. H. Bear taking second with "Inkerman." In the three-year-old class Mr. M'Dougall's "Benledi" was first, and Mr. Johnston's son of "Reformer" 2nd. There were no other entries in the above classes, nor was there indeed, by any means, a numerous show of Horses. The now well known "Colonel," (Mr. Jeffrey's) took first prize as blood entire, Mr. M'Gregor gaining second with a young horse, whose name we failed to discover; the same animal also took the first prize as a two-year old. The number of exhibitors in the neat cattle classes was very limited, though owing to the liberal supply from Mr. M'Dougall's herd, most of the classes were represented, and to that gentleman the majority of the prizes were awarded. Several intending exhibitors (as we were informed) were prevented from showing through fear of the prevalent disease, and should it continue to spread, we shall have to imitate our New York brethren, and have shows without cattle, that will be very like Hamlet with the principal part left out. Mr. M'Dougall's young bull, Royal Hope, was there exhibited, we believe for the first time, and to him was awarded the first prize. There was certainly another bull in the yard, yet we cannot but regret that he met with no foeman worthy of his steel. The pair of fat cows, from the same herd, were indeed a pair, and the two-year-old heifer, "Wave Hope," though, as we were told, not looking her best, from having lately slipped her calf, was, to our thinking, the most beautiful and perfect animal in the yards. In three-year-olds, Cowslip the

3rd and Grizzle Dundas, were first and second, and both prizes for imported cows, and several others also, fell to Mr. McDougall. To Mr. Alexander Brock was awarded the prize for the best cow. Mr. John Greenway and Mr. Thomas Wragge were also successful exhibitors in cattle. The fine Cotswold rams, that have gained for their owner so many honors, were again successfully exhibited by Mr. Arthur Smoothy; and the remainder of the sheep classes were almost entirely at Mr. McDougall's disposal. Pigs were better represented than at most country shows, Mr. D. G. Clark, Messrs. Langton, Mr. Harper, and others, being among the successful exhibitors. Mr. Clark also contributed largely to the Poultry Department, but the character of his stock is too well known to need comment.

The exhibits in Wheat were less numerous than we expected to have found them, and the same may be said of the grain generally, though the quality was quite up to the mark, 60½ lb. per bushel being the weight of Mr. Donaldson's 1st prize sample of wheat.

Dairy Produce, as might have been anticipated, was well represented as far as Butter was concerned; the Cheese was Colonial.

The show of seasonable fruit was worthy even of Heidelberg. Mr. Perry well sustained the character of his garden with collections of thirty-one varieties of pears, and seventeen of apples; his miscellaneous collection of fruits, too, well deserved the prize that was awarded it.

For grapes, the season is too far advanced, but some good black Hambros' and Motaras were exhibited. Mr. Fanning met with his usual success in choice apples, and his collection of eighteen varieties of farm produce, elicited much admiration, as well as the substantial reward of a prize. The roots were, as everywhere else this season, particularly fine, and in the heart of the potatoe district we were not surprised at the number or quality of the samples.

Gigantic maize, sorghum, and bagree, with osier willows (Mr. Perry's) of extraordinary height, were ranged around in profusion; the latter article should certainly gain attention from our farmers; a limited area would pay well. We were almost forgetting the well assorted and carefully named collection of seeds by Messrs. Handasyde, McMillan and Co; the various kinds being ranged under appropriate heads. A selection can thus conveniently be made, according as the object may be oil, fibre, or other products. From the Experimental Farm, a collection of Seeds and Roots was also contributed, but not for competition. Of the quality of the Wines, we are unable to speak, the owners apparently preferring to keep them well corked; but we may mention that Mr. T. H. Bear received Mr. Elder's prize cup for the best sample; it must, however, have been an exceedingly small one, if we may judge from the fact that not a taste could be spared even for the donor of the cup. In future, the Committee should stipulate for the production of a larger quantity; one bottle is certainly not worthy of such a prize. In presenting to Mr. Bear the cup, the President took occasion to inform the members, that Mr. Elder had generously placed at the

disposal of the Committee a cup for next season, as a prize for the best sample of Colonial grown malting Barley, none being exhibited on the present occasion.—*Age*.

SAYING HORSES FROM BURNING STABLES.—A correspondent suggests the following plan for constructing stables so that horses could be easily induced to go out in case of fire. He says:—"Let the sides or walls of the ground-floor of stables, of whatever shape they may be built, consist entirely of doors on rollers, on an iron track; the upper floor, or hay-loft, being supported on brick, stone, or iron pillars. Let moveable mangers be attached to those pillars. In this way the horses' heads would be towards the doors. If a fire happened the doors could be rolled aside, the mangers lifted up or knocked down, and the horses liberated in a few minutes. Farmers, livery stable and omnibus men would find such a mode of building their stables as cheap as any other. Besides, while such a plan would tend to save life, it would permit a more thorough ventilation and cleansing than can be given to stables built in the present style.—*New York Tribune*, Dec. 11.

A BUSHEL of carrots and a bushel of oats are as good for a horse at moderate work as two bushels of oats, not because the carrots contain as much nutriment as the oats, but they aid the digestive organs in a more perfect appropriation of the principles of both. When horses are continually fed on oats, much of the food passes undigested, and is a dead loss except to the dung heap.

A GENTLEMAN has sent to the *New England Farmer* an amusing description of "How a Toad takes off his Coat and Pants." He says he has seen one do it, and a friend has seen another do the same thing in the same way:—"About the middle of July, I found a toad on a hill of melons, and not wanting him to leave, I hoed round him; he appeared sluggish, and not inclined to move. Presently I observed him pressing his elbows against his sides, and rubbing downwards. He appeared so singular, that I watched to see what he was up to. After a few smart rubs, his skin began to burst open straight along his back. Now, said I, old fellow, you have done it; but he appeared to be unconcerned, and kept on rubbing until he had worked all his skin into folds on his sides and hips; then grasping one hind leg with both his hands, he hauled off one leg of his pants the same as anybody would, then stripped the other hind leg in the same way. He then took his cast-off cuticle forward between his fore legs into his mouth and swallowed it; then, by raising and lowering his head, swallowing as his head came down, he stripped off the skin underneath until it came down to his fore legs, and then grasping one of these with the opposite hand, by considerable pulling, stripped off the skin; changing hands, he stripped the other, and by a slight motion of the head, and all the while swallowing, he drew it from the neck, and swallowed the whole. The operation seemed an agreeable one, and occupied but a short time."

HOLLOWAY'S OINTMENT AND PILLS.—The skin disease to which the *bon vivant* and man of indolent habits are peculiarly subject, as well as those scorbutic affections caused by a superabundance of salt diet and the hardships and privations of a seaman's life, are readily removed by Holloway's Ointment. The disfiguring blotches, pustules, pimples, &c., arising from suppressed perspiration or obstructions in the secretory organs, are also immediately obliterated by this purifying and beautifying agent. It has no equal as a means of clearing the complexion and relieving the skin of discolorations and excrescences. The Pills, as they carry off all inward impurities, are an important auxiliary to the ointment in such cases.

A PARK FOR BALLARAT WEST.—The town surveyor for Ballarat West has been instructed to prepare plans and specification of the cost of fencing 320 acres of park lands, near the Sebastopol road. It is proposed to surround the lands with an ornamental fence, and to plant them with ornamental trees. It is suggested, also, that the lands may be leased for three years at a sum sufficient to cover the outlay proposed.—*Ballarat Times*, April 4.

To Subscribers.

THE present number commences the fifth volume of the "Gazette," and in order to meet the regulations of the Post Office, it will be necessary that in the ensuing year we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

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" D. C. McArthur	1	2	0	Dr. Chas. Lampriere	1	9	4
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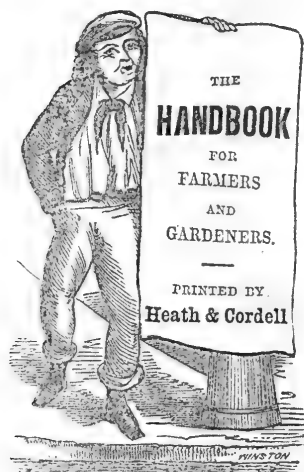
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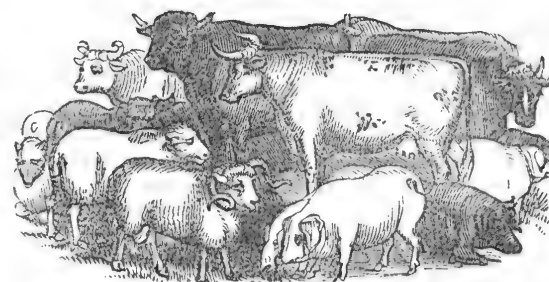
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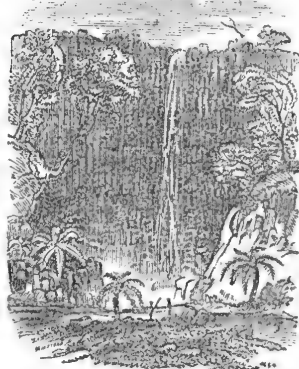


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THE COLONY.

VOL. V.—No. 5.

MAY 2, 1861.

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FARMING OPERATIONS FOR MAY.

MAY is the great Wheat-sowing month,—in the earlier and warmer climates of this colony,—and the sooner the seed is sown now the better. It will be needless to point out, as we have repeatedly done already, the necessity of procuring the best and cleanest seed, nor to remind farmers of the great risk they run in saving wheat for seed, and then sowing it on the very land it was cut from. If agriculturists are too poor to buy good seed wheat, they must exchange with another farmer, and the further from them that farmer's land is the better. The different varieties of wheat thrive variously according to the soil in which they are sown, so that the farmer must exercise his own judgment, or that of another, as to the peculiar kind of wheat that will best suit his field. In the management of wheat previous to sowing, lies the secret of obtaining good crops. In nine cases out of ten, if wheat be not properly prepared, the crop will be either a total loss, or a partial failure. There are many substances used for preserving wheat from the danger of being smutted, among these are sulphate of copper, common bluestone, sulphate of zinc, lye, urine, lime, &c. Of all of these the simplest and most efficacious is the bluestone,—this is applied in two ways,—by making the solution very strong, spreading out the wheat and sprinkling the grain with the liquor,—and by steeping it in a weaker solution, and drying with lime or ashes. The steeping process is decidedly the best, because every part of the grain is exposed to the solution, and it has this additional advantage, that in steeping, any impurities in the seed rise to the surface, and are thus easily skimmed off. The bluestone may be used at the rate of one pound to six bushels of grain, and as the expense and trouble is very small, farmers would find it advantageous to steep oats as well as wheat.

Oats should not, if possible, be sown later than the end of this month, and like wheat, they should be most carefully selected for seed, care being of course taken that the land on which they are to be sown is thoroughly clean also.

In most cases it will be safe to take up the Potato crop now, and to store or pit them before the winter sets in. Land may also be ploughed up, and receive a heavy coating of manure, for the next crop of potatoes to be planted in August. It will be generally found more advantageous to manure the Potatoe ground in this way, than to lay the manure in the drills at the time of planting, and placing the sets upon it. Old hay land, or any land that has had three or four crops of

VICTORIA.

V.



R.

REGULATIONS FOR THE

Introduction of Immigrants.

Department of Trade and Customs,
Melbourne, 15th April, 1861.

HIS Excellency the Governor in Council has been pleased to direct, that from the date hereof, the following Revised Regulations be adopted, and that the same be published for the information of persons desirous of securing passages for their relatives and friends from the United Kingdom to Victoria.

By His Excellency's Command,

THOMAS LOADER.

No. I.

REMITTANCE REGULATIONS.

- Persons desirous of bringing their relatives and friends from the United Kingdom to Victoria, may apply to the Officers named in Clause 10 for "Passage Warrants," which will be granted under the following conditions:—
- The persons to be brought to this Colony shall be British subjects, of sound mind, in good health, and of good character.
- The names, ages, relation to the applicant, married or single state, occupation and address of the persons for whom passages are requested, must be furnished by the applicant according to the accompanying form:—

Christian Name and Surname at full length.	Age.	Whether Married or Single.	Relationship.	Trade or Calling.	Address at full length of the Place or Town and Street where living in the United Kingdom.	Has the Nominée been previously in Victoria.

4. The applicant will then be informed of the amount to be paid to secure the passages, and upon payment of this sum, he will receive a "Passage Warrant," which he can forward to his friends by post or otherwise.

5. The following sums shall be in all instances paid by the applicant in advance, in respect to intending emigrants of the various classes, prior to the issue of the Passage Warrants:—

Sex.	Under Twelve years.	Twelve years and under Forty.	Forty years and upwards.
Male	£ 3	£ 5	£ 6
Female	2	2	3

6. The person named in the Passage Warrant (except in the case of unprotected single females), may upon receipt thereof, engage his or her passage by any ship sailing from any port in the United Kingdom to any port in the Colony of Victoria, tendering the Passage Warrant to the ship owner or agent as payment for the sum marked thereon.

7. Masters of ships arriving in this Colony with Immigrants, introduced under these Regulations, shall report in writing to the Immigration Officer on boarding, the number

cereals taken from it, is what should be thus prepared for potatoes.

Beets and Mangolds will be fit to take up and store or pit at the end of the month; but if they have been planted on ground intended to be cleaned for wheat, they should be taken up at once, in order to let the wheat be sown. Carrots will also be fit to take up now.

Clover and Rye-grass, if intended to be laid down, should be sown among the oats after they have been up about a month, and the ground should be well rolled afterwards, if not too wet.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

CULTURE OF THE VINE FROM SEED. (J. L. K. Dunne.)—You might sow a great quantity of seed and not get one good variety from it, unless you have been very careful to impregnate the flowers of the bunch from which you intended to save seed for sowing with its own pollen or the pollen of some other good variety, and carefully preserved by covering up with gauze the bunch as soon as it expanded its flowers. This is the way that new varieties are obtained; and you could not even depend on getting a variety as good as the one you saved the seed from, unless you attended to this. Very great care and observation is necessary for the raising of new varieties of Grapes, and it is useless to sow the seed unless you have paid attention to these particulars. If you have, you may sow the seed any time after June.

TREES AND SHRUBS (Fanny M. Brighton).—These are so numerous for the purposes you mention, that we advise you to apply to some of the nurserymen who advertise in our pages. State to them what you wish to do, and they will furnish you with a good selection. Do not depend on getting seeds or plants from any Botanic Gardens. They have none of the finer things to give away, and, unless in the case of some rare plant for use, specially cultivated for distribution, what you would get from them, we have no doubt, you would discard now if you had them.

NAMING PLANTS. (An Admirer of Flowers, Geelong).—We certainly must agree with you. We are worse off than they are in Melbourne, with regard to the plants in the gardens being named; and very few are named even there. We think that a few pounds spent in putting correct labels to all of the plants would be well spent in both places. Indeed, we conceive it to be one of the objects of gardens of the kind. But we have no power in the matter, it rests with the trustees and gentlemen who have the charge of these places of recreation and instruction. We understand that you can purchase a catalogue at the Geelong Gardens; but do not think you ought to be called upon to do so.

FOOD FOR HORSES, &c. (R. R., Bellerine).—Food ought always to be given in abundance, but never to satiety. Even animals grazing on rich pastures have been found to feed faster when removed from it once a day. So that you need not suppose your Horse is going to be starved because he has not always his rack full of hay.

BONE DUST. (Farmer, Modewarre). Bone Dust was used before Guano, and with very satisfactory results. For your vineyards we would recommend you to use bones, say, of the two-inch size. We have had no experience with the Australian Guano, but farmers on whose opinion we can depend speak highly of it.

PLEURO PNEUMONIA. (Farmer).—Most decidedly infectious, notwithstanding what has been said to the contrary. Professor Dick changed his opinion, and had good cause for doing so. No doubt some Cattle are from constitutional weakness or defect, more pre-disposed to it than others; but it is, in our opinion, as decidedly infectious as are small-pox in the human subject.

VINES AND VINEYARDS.

THE season for planting Vines being now close at hand, it may not be out of place to take a glance at the young, but already vigorous Wine producing interest of the country. Ten short years ago this baby giant was in his swaddling clothes; but in the short space of time that has elapsed since he was short-coated, how has he sprung up, what gigantic strides has he made into the first boyhood of his young life, in spite of all the obstacles he has to contend against in the shape of bad nurses and common neglect. If our information be correct we believe there are at the present time somewhere about eight hundred acres of Vines planted in the Colony—more than one-half of this number being within the County of Grant and in the neighbourhood of Geelong, where, from the quality of the soil, the Vines, if not equal in productiveness to those of other districts, produce by far the finest flavoured Wines we have tasted from Colonial grapes; and the success of Messrs. Passalague & Co., of Geelong, in carrying off the two first prizes at the last Melbourne Exhibition of Colonial Wines, proves that we are not alone in our opinion of the merits of the County of Grant grapes. Both the wines for which Messrs. Passalague & Co. obtained prizes, were the product of vineyards within twelve miles of Geelong—in fact all their Wines with one exception were.

But while we award to Grant the decided palm as a Wine producing district, we cannot congratulate it on producing the greatest quantity, or the best quality of eatable or curable Vine fruit, and while we are constrained to declare our utter misbelief in reports we have seen promulgated through the Press relative to the fabulous productions of some Vineyards on the Murray, we must fairly assert that for quantity of fruit, the Vineyards of Grant are behind those of a majority of the other grape-growing districts. Around Melbourne and in the neighbourhood of some of our inland towns, the Vines are much heavier laden, and the berries are much larger than those of Grant; but as a first rate Wine

and names of such Immigrants, who shall then be produced by the master for identification, and if found to correspond with the description upon the Warrant, such Warrant shall be endorsed by the said Immigration Officer.

8. The master of each ship, if the Immigrant desire, may be required to maintain passengers introduced under these Regulations for a clear space of seven days after arrival at the port of destination; and upon satisfactory proof being tendered to the Immigration Agent, that the conditions specified upon the back of the Warrant have been faithfully performed, the Passage Warrant will be countersigned by him, and shall then be paid upon presentation at the Treasury in Melbourne.

9. Passage Warrants shall not be issued for children under fifteen years of age unless accompanied by some suitable person who will take charge of them during the voyage.

10. Persons resident in Victoria desirous of availing themselves of the advantages of these Regulations, should apply at the following offices:—

Melbourne, to the Immigration Agent.

Geelong,
Portland,
Port Fairy,
Warrnambool,
Port Albert,

To the Assistant
Immigration Agents.

Ararat,
Avoca,
Back Creek,
Ballaarat,
Beechworth,
Castlemaine,
Creswick,
Dunolly,
Hamilton,
Maldon,
Maryborough,
Pleasant Creek,
Raglan,
Sandhurst,
Inglewood,

To the Receivers and
Paymasters.

Vide also
Clause 11.

Where application forms (A), and also every information will be furnished, and the deposits received. Form (A) should then be filled in by the applicant, signed by him, and left with the officer. He will then be informed of the amount required to be paid (form B). So soon as the amount mentioned shall have been paid to the Assistant Immigration Agent, or Receiver and Paymaster (as the case may be), the money, or a Treasury receipt for it, is to be sent to the Immigration Agent in Melbourne, with the application form (marked C). The Immigration Agent will then transmit Passage Warrants for the persons nominated, either to the office at which the money was paid, or to such address as the applicant may request. The Passage Warrant must be sent by the applicant to his friends in the United Kingdom.

11. Persons residing at a distance from any of the places not mentioned in the list appended to Clause 10, may obtain the application form (A) at the nearest POST OFFICE; this form, after having been duly filled up and signed, should be transmitted to the Immigration Agent in Melbourne, by whom every information will be furnished. The amount required can be sent to the Immigration Agent in Melbourne, by cheque, or order on a bank, by bank notes in a registered letter, or by post office money order. Upon receipt of this remittance, the usual Warrant (if approved) for the passages of his friends will be forwarded to the depositor, to be transmitted by post to their address in the United Kingdom.

12. Should the persons specified in the Passage Warrant decline or be unable to emigrate, the money paid towards their passages will not be refunded to the nominator, but unless the nominator requires the Passage Warrant to be made non-transferable, the nominee, having first obtained the consent of Her Majesty's Colonial Land and Emigration Commissioners, may by endorsement transfer such Warrant. Should the nominee be dead, the Passage Warrant may be exchanged upon application to the Immigration Agent in Melbourne.

13. If the nominator wilfully misrepresent particulars respecting the persons nominated, or if the transferor wilfully misrepresent particulars respecting the person to whom he proposes to transfer the Passage Warrant, or if any person known by the nominator to be under indenture be nominated, then the Commissioner of Trade and Customs or Her Majesty's Colonial Land and Emigration Commissioners may cancel the said Passage Warrant, and the deposit shall be forfeited, notwithstanding that the nominee or transferee may have been introduced into Victoria previous to the disqualification being discovered.

14. Persons resident in Victoria desirous of introducing single females from the United Kingdom, under this system, may do so upon depositing with the Immigration Agent, Melbourne, the sum required by the scale set forth in the fifth clause of these Regulations. A Passage Warrant will then be issued to that effect, which should be transmitted to the nominee. Upon receipt of such warrant, if the nominee desires to emigrate in a Government ship, she must apply to the Commissioners in London, who will grant a passage in one of the vessels chartered by them on behalf of the Government of Victoria, provided always, that all single women introduced in ordinary passenger ships under these Regulations shall be accompanied by their relatives or a family of friends, otherwise they must be introduced in Government vessels, or the Warrant will not be recognised.

producing district, Grant may be set down as bearing off the palm in Victoria. In that district three tons and a half of grapes per acre from eight to ten year old Vines, in a good season, is considered an excellent Crop, while in other districts the Crops from younger Vines average, it is said, from four to six tons per acre. This latter may certainly be a slight exaggeration, but we adopt it; and in striking an average, and allowing one hundred out of the eight hundred acres of Vines said to be planted, to be unproductive altogether, we find that even now the Colony produces annually, nearly three thousand tons of Grapes, which, at the rate of one hundred and sixty gallons of Wine to the ton, is equal to about half a million of gallons, or about one gallon per head to each man, woman and child of the population. It is therefore evident from the rapid increase of our Vineyards, and from the great desire exhibited lately by numbers of people to invest their capital in them, as well as from the greater facilities now afforded to the Vine cultivation, by a reduced labour market, that at no very distant date we shall have an abundant supply of Wine for exportation to Europe, America, India, or China, besides the much greater advantage of having a profusion of the most agreeable, cheering and wholesome beverages to replace the abominable importations swallowed by our population at the present day.

The increased call for colonial wine; the enhanced price of vineyard sites; and the great demand for competent vinedressers, all prove the high favour into which this great colonial interest—for it will assume vast proportions within the next twenty years—has suddenly risen; and so long as there is no attempt to introduce that reckless spirit of speculation into the question—which is often introduced by those designing knaves who fatten on the follies of others—it will be the duty of every colonist to promote its advancement by every means in his power. The principal drawback to men of small capital engaging in this pursuit, is the amount of money required to establish a Vineyard; but a Vineyard established, is, perhaps, the safest of all securities;—neither fire nor water are likely to injure much less destroy it—a bad season may blight or destroy one

crop, but no weather in this colony destroys the Vine; and being a safe security, there should be no difficulty in obtaining loans upon it. A little industry and patience will soon enable the borrower to repay what he has borrowed. Vineyards will have, perhaps, a better defined fixed value, and will be less liable to fluctuations, than any other description of country property.

Having said thus much in favour of what we expect will shortly become one of the paramount interests of the colony, we shall now give a few instructions for the benefit of those who may be inclined to turn their attention to vine-growing. The first consideration is to select a suitable spot; to do which, two essential elements must be combined in the land—it must be of a good soil, favourable to the growth of the Vine, and must have an aspect equally favourable. As to the first, there is no soil equal, for the production of choice wine grapes, to the light calcareous—and next to that the volcanic. A loamy and gravelly soil, if not on a cold clayey sub-soil, will also yield fine flavoured fruit. The rich deep black and chocolate soils yield abundance of splendid grapes; but the fruit is not nearly so well adapted for wine-making—that is, for making the choice wines possessing the finest *bouquet*, and commanding the highest prices in the market. Next to the soil, we have to attend to the site and the aspect; the former of these should invariably be on the side of a hill, with, if possible, a gentle declivity, and with a high hill behind to break the force of the westerly and southerly winds. Any declivity will suit the plant; but if it be very sharp, the labour is increased, while the heavy showers of rain to which we are frequently exposed are enabled to wash away very great quantities of soil from the roots of the Vines. Vines planted on a flat surface are generally found not to arrive regularly at that perfect maturity so desirable for wine-making. The aspect should be between east and north; some prefer it more easterly, and some more northerly, but much must depend on the nature of the surrounding country; the vineyard should be situated so that it will be exposed, at the rising of the sun, to the full influence of that luminary.

Having selected the site, the next thing to be done is to place a substantial pig

15. Persons preferring Government ships for the introduction of their families must state the same on application for the Passage Warrants, and every nominee preferring to be introduced in Government ships must surrender to Her Majesty's Colonial Land and Emigration Commissioners the Passage Warrant when making application for a passage.

16. No Passage Warrant shall be issued, and no transfer of any Warrant will be permitted in favor of or to any person who has already been in Victoria.

[FORM A.]

186 .

SIR,

I have the honor to transmit a list of the persons I wish to bring into this Colony from the United Kingdom. The full particulars as given in the form below, are, to the best of my knowledge and belief, true in every respect; I should therefore feel obliged by your informing me of the sum to be paid to secure passages for them.

Christian Name and Surname at full length.	Age.	Whether Married or Single.	Relationship.	Trade or Calling.	Address at full length of the Place or Town and Street where living in the United Kingdom.	Has the Nominee been previously in Victoria?

I have the honor to be, Sir,
Your most obedient Servant,

Applicant's signature,
And residence,

To the Immigration Agent, Melbourne.

[FORM B.]

186 .

SIR,

In reply to your enquiry as to the expense of securing passages from the United Kingdom to Victoria in for the persons named in the application form, I have to inform you, that the sum required will amount to £ , as stated in the margin.

2. On payment of the above sum at this office a "Passage Warrant" will be sent to you, which will entitle your nominee to a passage. You will therefore be careful to forward address in the United Kingdom.

I remain, Sir, your obedient Servant,

[FORM C.]

186 .

SIR,

I have the honor to enclose an application form for the passages of the persons named therein. The sum of £ , as specified in the margin, has been paid into this office, and I enclose herewith a for the amount.

3. Mr. requests that the usual "Passage Warrant" may be sent for him to this office.

I have the honor to be, Sir,
Your most obedient Servant,

To the Immigration Agent, Melbourne.

No. II.

REGULATIONS FOR THE INTRODUCTION OF SINGLE FEMALES.

Department of Trade and Customs,
Melbourne, 15th April, 1861.

Persons resident in this Colony desirous of introducing single females (their relatives or friends) from the United Kingdom under this Regulation, may apply to the Immigration Agent for a free passage; and upon nominee named being approved of by the Immigration Agent, her name will be forwarded to Her Majesty's Colonial Land and Emigration Commissioners for a free passage to this Colony, in a Government ship chartered by Her Majesty's Commissioners.

THOMAS LOADER,

Commissioner of Trade and Customs.

No. III.

REGULATIONS FOR THE INTRODUCTION OF VINE-DRESSERS INTO VICTORIA.

Department of Trade and Customs,
Melbourne, 15th April, 1861.

Persons resident in this Colony desirous of introducing under this Regulation natives of the Continent of Europe, being Vine-dressers and others skilled in the production of wine and oil and the preservation of fruit, shall be at liberty to make application to the Immigration Agent for permission to do so; which application shall state the number and

and goat-proof fence or wall round it, and then commence to trench the land. This will be much more economically performed with the plough than with the spade, and will be equally well done. The ground being trenched, and the surface harrowed level, the next thing is to secure the Vine Cuttings for planting. On this point there is, as to the best varieties of Vine, a considerable difference of opinion here, arising, perhaps, from the varied nature of the soils and altitudes in which the Vines have been tried. We believe we will be safe in recommending all the following varieties:—Burgundy, particularly that Vine known here now as the "Glory of Australia," Hermitage, Black Cluster, Black Prince, Black St. Peter, Chasselas, Gouais, Riesling, Pinau, Muscat, and Tokay. The Sweetwater Grape, whatever others may say of it, we would not recommend for a Vineyard, it is so liable to blight and disease. This berry is much prized for the table; but there will be always an abundant supply of it from the gardens, without introducing it into the Vineyard. The Cuttings must be kept cool and dry until required, and must on no account be planted out in wet weather. In laying down the Cuttings, these should be planted in rows running north and south, if the nature of the ground will allow it, at a distance of five feet between each row, and three feet six inches, or, as some prefer it, three feet between each plant in the row. The advantage of laying down the rows at this distance is, that a horse drawing a scari-fier, can be easily driven between them; and this method of weeding and opening the ground, saves something like thirty-five per cent. on the old fashioned style of weeding by manual labour. A dibble is used for the purpose of putting the Cuttings in.

Much more information of a minor nature is requisite, than we could possibly convey in an article of this kind; but the beginner who may require such, will find all he desires in the numerous essays and letters that have appeared from time to time lately on this rapidly increasing branch of industry. Should he fail to obtain these, he has only then to apply to any of the numerous Vinegrowers, whose little patches of tendrils and clusters are

now dotting the country far and wide; and he will find in the majority of cases, men both competent and anxious to give him correct information. As to the extent of the Vineyard, that must be regulated solely by the means of the intending investor; but ten acres is a good size to begin with, for a man of limited means.

SEASONABLE HINTS.

WE would remind our numerous amateur readers, that the season for alterations in their gardens, removing and planting trees and shrubs in the flower and pleasure garden, and of fruit bearing trees in the kitchen garden and orchard, has arrived; and wherever alterations have been determined on, they should be proceeded with without delay. If left till the dead of winter, the weather may be such as to retard the necessary works, and the planting decided on would be thrown into Spring, a season that we do not think the most suitable for such operations in this Colony. In Europe we might advocate Spring planting in preference to Autumn planting, because there the winter may be so severe as to destroy vitality in even trees and plants of the most robust Autumnal health, much more so in a tree that may have been but a short period before the advent of such weather removed. These latter from their roots having undergone a certain amount of mutilation during the process of removal, would necessarily be in a less favorable state to withstand the severity of the weather, but here the case is different; and although we do not for a moment wish it to be understood that trees have not a period of rest and cessation of organic development here as elsewhere, we are certain the period is less than in countries having a rigorous climate. The soil is seldom in an unfit state for planting, and is much more congenial to the development of young rootlets, than if it had been frost bound for a period; and the moment the season of growth commences, young roots will made their appearance, and become established ere the withering blasts of summer make their baneful influence felt. If planting be left till the spring here, and especially late in the spring, the roots have scarcely time to begin to grow ere they are called upon to provide for the rapid evaporation of the sap through the leaves of the plant, which an early summer with its hot winds causes; and the consequence is failure in many cases. Therefore, we say, that it is much better to plant now, that whatever is planted may be ready to start into growth in spring, and store up some energy, if we may so term it, for the summer. Where it is intended to plant Flowering Shrubs or indeed Ornamental Trees of any kind, we strongly advocate that the ground be well trenched, and if it be poor and barren, some cart loads, according to the size of the space to be planted, of turfy loam from some waste land should be incorporated with it during the process of trenching. If the soil be heavy, and of a tenacious clayey nature, some coarse road sand or old lime rubbish, should be used to render it more suitable for the roots of plants. As a general rule, manure in shrubberies is out of

description of the persons. On the requisite permission being granted, the applicant shall be at liberty to instruct his agent to make the necessary selection, and to provide for the passages; and each of the nominees shall be furnished with a certificate signed by the magisterial authority of the district from which he has been selected, guaranteeing him to be of good character, and a laborer of the description applied for. On the arrival of the Immigrants in the Colony, and having been approved of by the Immigration Agent, an order will be issued on the Treasury in favor of the person for whose service they have been introduced for the payment of £10 sterling for each statute adult.

THOMAS LOADER,
Commissioner of Trade and Customs.

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

ANNATTO WORKS,
SOMERSET PLACE, HOXTON, LONDON.
Established 1785.

IMPORTANT CAUTION.

WE beg to call the attention of dealers and consumers of Annatto, to the fact that several persons are selling a spurious and useless article bearing the names of EDWARD FULLWOOD and Co., B. FULLWOOD and Co., &c. In order to guard our friends and the public against such deception, we respectfully assure them that neither of the parties have, or ever had, any connection with our Trade or Manufacture, and that we are the only successors of the original Fullwood's Annatto.

To prevent fraud, our Annatto's are stamped

R. J. FULLWOOD & BLAND.

Horticultural Improvement Association.

THE next Monthly Meeting will be held at the Mechanics' Institution, on WEDNESDAY, the 22nd May, at Seven o'clock P.M.

Members are particularly requested to attend,—the discussion of Mr. Powney's Paper on the "Propagation of the Pear," having been adjourned to this date.

S. HANNAFORD,
Hon. Secretary.

Flemington Bone Mills,
Established—1855.

BONE DUST, £6 10s.

Per Ton, in bags, delivered in Town.

Orders by Post to

J. MACMEIKAN & CO.,

FLEMINGTON Bone Mills, or any of the undermentioned Agents, will have prompt attention.

AGENTS:

W. Law and Co., at their new Warehouse, 118, Swanston Street, between Little Bourke and Lonsdale Streets, Melbourne.

E. F. Browne, 7, Latrobe-street East, Melbourne.

Tod, Alexander & Co., Gertrude-street, Collingwood.

James Murdoch, 288, Brunswick-street, Collingwood.

W. J. Wood, Seedsman, above Toorak Hotel.

Charles Stone, Central Brighton.

James Moss, near the Red Lion, Hawthorne.

Child and Price, Dispensary, Brunswick.

John Davison, Malop-street, Geelong.

David Teeson, Moonee Ponds.

H. G. Powell, Seedsman, High-street, Kyneton.

G. W. Glass & Co., Seedsman, Market-street, Castlemaine.

George Dunbar, Seedsman, Dandenong Hotel, Dandenong.

WHEAT. WHEAT.

THE undersigned are CASH buyers for delivery at their Mill at Riversdale.

DALGETY, IBBOTSON & CO.

Wheat.

THE Undersigned are Purchasers of Wheat at Market Prices.

DALGETY, IBBOTSON & CO.

On Sale,

By the Undersigned,

GALVANIZED FENCING WIRE; Black Fencing Wire and Corn Sacks.

DALGETY, IBBOTSON & CO.

place. Laurels, Azelias, Lauristinus, Rhododendrons, Andromedas, Lagenarias, and such like fine fibrous rooted shrubs, like a rather light turfy soil, similar to what may be dug out of a forest where leaves have been for ages mouldering into earth. Coniferous trees and shrubs like a rather more strong soil, and should not by any means have manure. But we have seen few gardens where the very finest of known shrubs and ornamental trees would not grow if precautions as to trenching and properly preparing were attended to. Another advantage of early planting is, that one can get better stock from the Nurseryman at the beginning than the end of the season; and it is a saving of money and time also in the end to attend to this. We hope to see as time wears on, the gardens of Victoria assuming an aspect of correct taste in the disposition of the many beauties of nature that may be made available in this favoured land for the purposes of the Landscape Gardener; and as we are gradually getting rid of the wild excitement of the golden era, and becoming more alive to the pleasures to be derived from assimilating our homes to those picturesque spots many of us have left behind us, we must see that our steps are aided in the accomplishment of our object, by observation of the proper times and seasons for certain operations.

In removing large shrubs, care must be taken to injure the roots as little as possible. The work of taking up should be commenced at the extremities of the roots, and the earth be gradually picked away until a sufficient distance from the bole of the tree is reached, for a ball of earth if possible to be lifted with it. This ball of earth is not more for the purpose of saving numerous rootlets from being exposed and preventing them losing their hold of the soil, than for steadying the plant in its new position. The hole to receive the roots should be sufficiently large to allow the roots to be spread out at full length, and the depth so that the surface of the soil should not be more than an inch up the stem of the tree. We have seen in this colony many trees, not excepting fruit trees, buried six inches up the stem. The consequence has been, that they did not grow satisfactorily, and never would grow till taken up and replanted.

The soil should be carefully sprinkled in amongst the roots, and if possible water should be poured in to wash it down amongst the roots. The tree might then be left for a little while to allow the water to soak in, when the final covering of the roots may be gone on with. We mention these particulars because we have seen many so called gardeners taking up shrubs, digging round and cutting the roots, and cramming them into holes, no matter whether the roots are doubled up or not. These men should be taught their profession before they attempt to labour in it, and where they have not previous knowledge, amateurs, when competent, should see that they do things in the proper way.

With regard to the Orchard, it may frequently happen that a tree may be required to be moved from one spot for many reasons. Such as being too crowded by its neighbours, or in the way of some improvement, while at the same time it might be the very tree required in some unoccupied space. Now there is no difficulty in removing large fruit trees, provided the proper means be adopted for doing so. Indeed trees will sometimes from over

luxuriance, require checking and urging into a fruit-bearing state by these very means. If time be taken by the forelock, and the roots of the tree be carefully uncovered, and carefully raised and deposited in a hole made large enough to allow of their being spread out at their full length, and have the soil carefully put in amongst them, and made firm, not trod hard as we sometimes see, and the tree be steadied with a stake or stakes, the very largest trees may be removed with success.

It is a common practice to shake and pull about a newly planted tree while the earth is being put in about the roots for the purpose of getting the soil well in amongst them. Now this is a mistake, for every pull that is given the roots are drawn out of their place, and it is impossible for them to push themselves back again, so they remain doubled up and impaired in health. These are principles which, though they may seem of small importance, produce satisfactory results when observed.

Now also is the time for root pruning any luxuriant fruit-bearing tree, more especially in small gardens where all trees must be kept of a medium size. When any of the trees are running all to wood, as it is termed, we would dig a trench around it and cut through the strong roots, and, if possible, if the tree has a centre or tap root, get underneath to cut him off. This is even desirable where the tap roots have got into a bad subsoil. Trees in poor untrenched soil, and getting stunted and unhealthy, may also now be renovated in health by having some of the soil removed from around the roots and its place supplied with some fresh compost, being the top spit of some more congenial loam, and it is here, and here only, that a little manure may be used. The best kind of manure for this is coarse bone dust, where this is scarce some well rotted stable manure.

Pruning should be attended to as soon as the leaves fall. It is a mistake to leave this part of Gardening operations till Spring, as some do. In the first place, by pruning early the fruit buds left have the benefit of the earliest symptoms of sap flowing, which they would have had to divide with others; and in the second place, Spring brings plenty of urgent work besides pruning. The past season has been one particularly favourable to the development of much wood on fruit trees, and careful pruning will be all the more requisite now.

Trenching, Digging, and Manuring should be attended to in the Kitchen Garden, and Cabbage, Cauliflower and Potatoes should be planted. Celery should be earthed up, and where any has been removed Peas and Beans should take its place. Cauliflower does well following Celery.

PLANTS FOR DISTRIBUTION.

The Government Botanist, Dr. Ferdinand Mueller, has, we observe, announced in the *Government Gazette*, that during the month of May, plants, cuttings, and seeds, can be supplied from the Public Gardens to public institutions of the colony.

LARGE MANGOLD.

Our readers will do well to visit the shop of Mr. William Clarkson, of Ryrie Street, to inspect an enormous long red Mangold, weighing nearly 60 lbs., measuring from root to leaves 34 inches, and 32 inches in circumference, grown by J. Calvert, Esq., Bellpost Hill.

Florists' Bulbs and Tubers, Imported and Colonial saved.

THE Prize Ranunculus, Prize Anemones, Tulips, Amaryllis, Gladiolus, Lilliums, Hyacinths, Crocus, Jonquills, Polyanthus, Narcissus, Agapanthus, &c. &c.

WM. CLARKSON,

Seedsman, Florist, &c.,
Great Ryrie-street.

Season for Planting—March till June.

WILLIAM CLARKSON,

Seedsman and Florist,
(Agent for Mr. T. Adcock, Kardinia Nursery.)

KITCHEN GARDEN SEEDS, of new and approved sorts; also, a few novelties, all of a vigorous growth, (being tested.)

FLOWER SEEDS, comprising nearly 400 varieties, and many novelties.

HEDGE AND TREE SEEDS, see Catalogue.

LUCERNES, CLOVERS, GRASSES, MANGOLDS, &c., of every description, tested and proved previous to sale.

Vine Pruning Shears (varieties), Verge and Hedge Shears, and other sorts, Bass Mats, Cucumbers, Glasses, Knives, Garden Reels and Lines, Tallies, Botanical Specimen Boxes, and Implements of every description for the Garden and Greenhouse or Conservatory. For a complete list see Catalogue.

Experienced Gardeners Recommended.

Gishurst's Compound;

A SAFE, effectual and inexpensive remedy for the Cabbage Blight, in 1 lb. boxes at 2s. each, and 5 lb. boxes at 6s. each. Also,

The Hellebore;

A certain and effectual remedy against the CATERPILLAR. Sold by

WM. CLARKSON,

Seedsman and Florist,
Great Ryrie-street.



Kardinia Nursery, Geelong.

T. A. respectfully invites the public to an inspection of his splendid Collection of DAHLIAS, now in full bloom.
N.B.—The Nurseries are open every day, Sundays excepted.

Colonial Seed Warehouse,
118, SWANSTON STREET,
(Near the Hospital.)

W. LAW & CO.,

Wholesale and Retail Seedsman, Seed Farmers,
&c. &c.

HAVE on hand a large and well grown Collection of Seeds of every description suited for the Farm and Garden. For particulars see Catalogues.

R. U. NICHOLLS & CO.,

WHOLESALE AND RETAIL
Nurserymen, Seedsman, and Florists,
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HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds.
Fruit, Forest, and Ornamental Trees.
Shrubs and Pot Plants, a good variety.

MESSRS. B. & S. JOHNSON,

PRACTICAL SEED GROWERS, NURSERYMEN,
FLORISTS, &c.,
THOMAS TOWN, PRESTON.

Baron Liebig's Recent Experiments on Manuring.

The indefatigable experimenter of the University of Giessen, has recently made some very startling announcements, as the result of his researches on the process of Manuring,—announcements which upset many of the points in Physiological Botany, considered by scientific men, as the best established and unquestionable.

Not very many years ago, the tips of the roots and rootlets were considered to imbibe moisture, as a sponge imbibes water, by minute pores; and hence these tips were scientifically termed *Spongistes*, or little sponges. But the early Histologists could not, with their best microscopes, discover these alleged pores and sponge-like structures; while Sir H. Davey in England, and M. Lassaigue in France, could not make pass into the root tips, the finest particles of sulphur, &c. It is now fully proved, indeed, that no pores, even the most minute, exist in the root tips. Water and moisture, then, it is believed pass into the root tips on the principle discovered by M. Dutranchet, the eminent Superintendent of the French Forests, known as the process of *Endosmose* and *Exosmose*, in plain English, "In-flow" and "Out-flow." But I cannot, at present, stop to explain this in detail, and I must pass to Liebig's Process of Manuring.

We have been hitherto taught to believe; and all scientific men believed, that manures and other plant food were carried in solution in rain water and carbonic acid gas, to the roots,—the plants living half in the moist ground and half in the open air, continually absorbing by their roots, and evaporating by their leaves. In this way the water was represented as the carrier of the most remote elements of the soil, to the immediate presence of the plant. Every cultivator has hitherto believed this as firmly, as that plants grow and water runs. But Baron Liebig expressly says "all this has been a grand mistake," maintaining the startling doctrine, that it is more than probable our cultivated plants receive their nourishment *directly* from those portions of the soil, which are in immediate contact with their rootlets; and further, that they die when the food is presented to them dissolved in water; in a similar manner to what follows from applying concentrated manures, to wit, that young plants are burnt and killed thereby.

Liebig's experiments, in proof of these very novel and extraordinary views, are of the simplest kind and easily repeated by the most unlearned cultivator, or the most unscientific labourer. I select the following experiment:—Fill a common pint or quart funnel with mould, and let a dilute solution of silicate of potash, (made by treating quartz with potash), be poured upon it. This will filter through the soil, and strange to say, when the water so filtered is examined, not a trace of the potash nor of the quartz can be found, except under very peculiar circumstances. Take another of Liebig's experiments:—If freshly precipitated phosphate of lime (earth of bones), or phosphate of magnesia, be dissolved in water saturated with carbonic acid gas, (such as strong soda-water), and filtered in like manner, through soil, there will not be found a trace of phosphoric acid in the filtered water. It adds to the evidence, that a solution of phosphate of lime in dilute sulphuric acid, comports

itself in the same way, the phosphoric acid in each case, remaining in the soil, which takes it clear out of the water. Charcoal acts in a similar manner with many soluble salts. In this case, it is a chemical attraction, acting from the surface; but in the soil, its constituents take part in the action.

In the instance of rain filtering through a garden or a field, the water does not as hitherto erroneously supposed, dissolve out a single trace of the manure that may be in the soil, in the form of potash, silicic acid, (from quartz), ammonia, or phosphoric acid from bone dust or guano. In a word, the soil does not give up to the water one particle of the manured food of plants which it may contain.

Such is as brief an account of these most extraordinary supposed, dissolve out a single trace of the manure that may be in the soil, in the form of potash, silicic acid, (from quartz), ammonia, or phosphoric acid from bone dust or guano. In a word, the soil does not give up to the water one particle of the manured food of plants which it may contain.

Such is as brief an account of these most extraordinary experiments of this eminent chemist, as I could condense into one short paper; but it would require a volume, to follow out the consequences of such a discovery in their practical applications. For example, it clearly follows that guano,—meaning phosphatic guano,—dissolved in water, or when sown dry, dissolved by rain, is not carried into plants by the water at all, but is distributed by the water through the soil, and left there to be fed upon, the water being filtered off clear without a trace of the manure.

J. R.

Notices of Books.

The "FLORAL MAGAZINE," by Thomas Moore, F.L.S., F.H.S.

WE have but recently received the early numbers of this work,—which was commenced in May last—and is being issued monthly at a cost of 2s. 6d each part. From Mr. Moore's antecedents in Floral Literature, we anticipated that he would here provide us with what was really required—a good plain book with figures and descriptions of our popular Garden Flowers; but our anticipations have been more than realised: the get up of the work is creditable alike to publisher and author, and when we say that the drawings are by Fitch, and are, if possible, more beautiful than any we have hitherto seen, our readers will form some idea how great a boon such a publication will be.

In addition to much interesting descriptive matter of habitat and peculiarities of each plant, the necessary mode of culture is given, which must render the work especially valuable to practical men.

Each part is illustrated with 4 plates, exquisitely coloured; those in part 1 representing "Countess of Derby Camellia," "Double Fringed Chinese Primrose," "Varieties of Persian Cyclamen," and "Silver Variegated Pteris."

Our publishers will be happy to receive the names of intending subscribers to the work prior to the departure of the May mail.

TRADE LISTS.

We have been favored with a list of Flowering Bulbs and Tubers just issued by Messrs. Thomas Lang & Co., of the Main Road, Ballarat, and notice in it a vast number of Amaryllis, Crocus, *Cyclamen persicum*, *Fritillaria*, and the English Snowdrop, *Galanthus nivalis*.

Of *Gladiolus* there are upwards of seventy named varieties, most of them of recent intro-

Flowering Bulbs and Tubers.

THOMAS LANG & CO.,
NURSERYMEN, SEEDSMEN, AND FLORISTS,
BALLAARAT.

HAVE just published a List of Flowering Bulbs, which they believe is the most complete that has been published in this part of the world. It may be had on application.

DIANTHUS HEDDEWIGGII.

This very beautiful herbaceous plant was brought to England two years ago from Japan, and was introduced to this country during the past season, by Dr. Kenworthy, F.R.S.V., President of the Ballarat Horticultural Society. The whole stock of Seeds and Plants has been by him placed in our hands.

This is undoubtedly one of the most showy and beautiful Plants ever introduced. It commands the admiration of all by the brilliant and varied colours of its flowers, which are fully three inches across. Its habit is elegant and it flowers profusely, and is quite hardy and easily grown.

Seeds, 1s. per packet, should be sown during winter, and will produce flowers during next summer. Plants, 1s. 6d. each, or 12s. per dozen, will flower sooner, and produce stronger clusters.

THOMAS LANG & CO., invite inspection of their valuable stock of Fruit Trees, Shrubs, Evergreens, Coniferous Plants, Greenhouse Plants, &c.

N.B.—Thorn Quicks for Fences; also, the Prickly Osage Orange, so famous in America as a hedge plant. It grows so strong that a bullock cannot break it down, and so close that a cat cannot pass through it.

NOTICE.—The undersigned has removed from No. 4. Ryrie-street, to larger premises in Little Malop-street (opposite Messrs. Holmes, White & Co.), near Gheringhap-street, where he carries on the

Flour, Produce, and Seed Trades.

In all their branches.

ALEXANDER REID.

SEED OATS, Tartarian and Potatoe.

SEED BARLEY, English and Cape.

SEED WHEAT,—Choice samples of—

White and Red Velvets.

White and Red Lammas.

Tuscan and Talavera.

Adelaide and Transilvanian.

Rutherford's Prolific.

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All Prime, Clean, and Pure.

ALEXANDER REID.

Agricultural Seeds.

CLOVERS (White, Red, and Yellow), Perennial and Italian Rye Grass, Lucerne, Sorgham, Mangolds, Tares, Horse Beans, white, grey, and blue Peas, Rye, Beet Turnips, Hedge and Tree Seeds, Grasses for mowing and pasture.

ALEXANDER REID.

Kitchen Garden Seeds.

PEAS, Beans, Cabbage, Carrots, Cauliflowers, Celery, Cress, Cucumbers, Lettuce, Melons, Onions, Parsley, Raddish, Vegetable Marrows, Herbs, &c.

FLOWER SEEDS

Annuals, Biennials, and Perennials, in great variety.

ALEXANDER REID.

GRAIN Purchased or Stored, and Advances made at Current Rates.

ALEXANDER REID.

GUANO.

FLAT ISLAND GUANO, £5 15s. per Ton in Geelong, bags included.

ALEX. REID,

Little Malop-street,
Geelong, Sole Agent.

ASKUNAS & CO.,
58, William-street, Melbourne.

GUANO!

GENUINE PERUVIAN. Sole Agents in Geelong—

SWANSTON, WILLIS & STEPHEN.

duction; and of Hyacinths, varieties of Double Blue, Double White, Double Yellow, and the same colors single.

The List altogether is good, comprising as it does, so many really good, and a great number of new Plants, and we have much pleasure in drawing the attention of our readers to it, and in adding, what perhaps is scarcely necessary, that Messrs. Lang & Co. may be implicitly relied on by those who leave their selection to the judgment of those gentlemen.

The Cineraria.

THIS is one of those numerous classes of flowers which have been so changed and improved by the skill of the florist of late years; that any one who remembers what they were five and twenty years since, and might not have seen one since, would never believe to be the same things. We remember the jibes and jeers that were indulged in at the expense of a well-known Florist, when he laid down a standard to be reached ere the Cineraria, as a florist's flower, would be perfect. It was considered a species of Utopian insanity to suppose that that thin narrow petaled star would ever be increased in the number of petals, that they should widen, that the ends should be obtuse, and the notches got rid of. But we have already seen that all this has been accomplished, and the original standard reached if not surpassed. For this we have to thank the indefatigable florist who has thus supplied us with one of the most useful plants for decorative purposes, either in the green-house or flower-garden, that we possess. True, we have not attained so high a degree of success in the raising of improved varieties here as they have in England, but we can avail ourselves of their labours, either by the purchase of their plants, which nurserymen now make it their business to introduce; or we can secure their seeds and do as they have done.

A plate in a late number of Moore's "Floral Magazine" illustrates the degree of perfection in shape and colour to which they have attained in the old country, and we should be very much delighted if we could induce florists here to take a little more trouble with this plant than they have hitherto done, and present us with something as exquisite in shape and beauty as those we allude to. Mr. Glenny, in his properties of flowers has laid down the standard for judging the Cineraria, and the correctness of his opinion is acknowledged by all who have taken an interest in its cultivation:—"A flower to be striking should be white on the ground, distinctly banded with a dense colour or shade of some kind, the greater the contrast the better; and it should have a small black, or dark coloured, or bright yellow disc. The petals should be smooth, and of a velvety or a glossy texture. There should be no ribs or puckers. The bloom should naturally lie as flat as a shilling; and if they deviate at all it must rather be by cupping than reflexing. The foliage should spread, and shew an even surface of green, and above this the flowers should show an even surface of bloom, the flowers setting edge to edge, and not one above another." Such are a few of the properties to guide us in raising new varieties.

Their cultivation is by seed, cuttings, and division of the roots or suckers. The seeds

should be sown in April, or as soon as they are ripe, in a light soil composed of about equal parts of loam and leafy mould, with a little sharp silver sand added. We prefer to sow in shallow pans having three inches of soil over a good drainage. The pan should be filled to within about half an inch of the top, and should be gently tapped on the ground to settle the soil. The surface should be made smooth, and the seed thinly sown, and covered with the eighth of an inch of fine mould. The pans should then be placed under shelter from the bright sunlight, or from heavy rain, and should receive a little water. The best way to water small seeds is to use a painter's brush, dip it in the water, and then sprinkle the soil with it. As soon as the plants are up, they should have abundance of air, but not too much exposure to the bright rays of the sun. And when they are fit to handle they should be potted into small thumb pots, singly, and put in a place of shelter till they have fairly begun to grow, being tended with water all the time.

When these small pots have become filled with roots, not pot bound, the plants should be shifted into six inch pots. The compost used for this potting being turfy loam and leaf mould, with some pieces of charcoal mixed amongst it, and the pots should be well drained. They should now, after a few days shelter, be placed in the open air, protected by a wall or house from the fierce rays of the sun, and from high winds. The pots should be placed on some coal ashes or gravel, and should be turned round every now and then, both for the purpose of equalizing the growth of the plants, and preventing them rooting into the ground. And they must be carefully watched for green fly; and if this pest makes its appearance, they should be fumigated with tobacco smoke. As soon as the plants show for bloom, they should be removed to the house window or green-house, and allowed to flower, that is to say, some of them, while others should be retarded, and induced to throw up numerous flower stems, by pinching out the first flower stem. Bad flowers must be thrown away as soon as they are done flowering, and good ones retained. While the plants are in flower, they may have a little liquid manure to strengthen them, but this should not be given previously, or more leaves than flowers will be developed. When done flowering, the flower stems should be cut down, the plants removed to the shelter of a south wall, and carefully tended with water; towards the end of summer they will begin to grow again. And now the process of propagation from suckers may be proceeded with. The young suckers should be potted into small pots, and treated precisely similar to seedlings. Unless in very good varieties we prefer to grow from seed always, and if care be taken to sow at different seasons, we may have flowers during the greater part of the year.

In the flower garden, a shady sheltered place must be selected for them, as they cannot stand the fierce heat of our summers.

TAKE DUE REST AND RECREATION.—I heard a good husband at his book say, that to omit study some time of the year, made as much for the increase of learning as to let the land lie fallow for some time maketh for the better increase of corn. If the land be ploughed every year the corn cometh up thin; so those which never leave poring on their books have oftentimes as thin invention as other poor men.—ROGER ASCHAM.

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

DO NOT READ THIS.

WHEAT SOWING.—IMPORTANT TO FARMERS.—A Real Preventative for Smut.—BY ROYAL LETTERS PATENT.—The Smut in Wheat entirely prevented, and the ravages of SLUGS, GRUBS, WIRE and SCISSOR WORMS destroyed by dressing the seed with DAY'S FARMERS' FRIEND and WHEAT PROTECTOR, which entirely supercedes the old way of pickling with bluestone and all other preparations, being never known to fail; in packets with full directions, 2s. each, procurable through chemists and store-keepers. Observe!—None are genuine unless bearing at each end fac simile of proprietor's signature. Sole Patentee, CHARLES DAY, Pharmaceutical and Agricultural Chemist, 27, Lonsdale-street west, Melbourne.
N.B.—Genuine horse, sheep, and cattle medicines of all kinds. Cheese and butter colouring.

MR. POYNTON, Chemist,

Malop Street, Agent for Geelong.

Seed Wheat.

FOR SALE, 350 Bushels of White Velvet Seed Wheat.—Apply to

ALFRED DOUGLASS & CO.

Victoria Terrace, April 15, 1860.

Wheat and Oats.

THE Undersigned are prepared to receive Grain on Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.

Ploughs. Ploughs. Ploughs.

THE undersigned are now landing Messrs. Gray and Co.'s celebrated best Light Two-horse Prize Ploughs, steel mould boards, extra mountings, coulters, &c., complete.

HOLMES, WHITE & CO.,

Geelong.

Harrows. Harrows.

THE undersigned are now landing, ex "Morning Light" and "Florine," from Glasgow, Messrs. Gray and Co.'s celebrated Zigzag Angled Iron Harrows, two and three in a set.

HOLMES, WHITE & CO.,

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PARKER & MACORD,

Tent and Tarpaulin Manufacturers,
AND DEALERS IN TENT MATERIALS,
FURITERERS, CONFECTIONERS, AND SEEDSMEN,
PALL MALL, SANDHURST.



Boots for Stations.

THE Undersigned begs to inform Farmers and Settlers of the Western District, that he has constantly on hand, and for sale, a large shipment of both Colonial and English made Boots, guaranteed of the best material and workmanship, at moderate prices. Parcels made up strictly to order, and punctually forwarded.

SAMUEL HIGGOTT,

MANUFACTURER AND IMPORTER OF BOOTS,
60, Moorabool-street, Market-square, and 16, Malop-street east, Geelong; and Main Road, Ballarat.

WILLIAM WATTS,

Auctioneer and Commission Agent,
MOORABOOL STREET,
GEELONG.

CASH ADVANCES made upon all kinds of Produce.
Weekly Price Current forwarded free upon application.

Popular Garden Flowers.

[We have elsewhere in our columns noticed briefly the very beautiful work now in course of publication, comprising figures and descriptions of Popular Garden Flowers, by Thomas Moore, Secretary to the Floral Committee of the Horticultural Society of London. As the work will probably fall but into the hands of a few, we purpose, for the benefit of our horticultural readers generally, to give monthly a brief abstract of such plants as each part contains.—ED. GAZETTE.]

COUNTRESS OF DERBY CAMELLIA.

This is a variety of the *Camellia Japonica*, flowers large, quite double, white, distinctly and distantly flaked with rose pink; outer petals reflexed. This variety is of Italian origin, and was imported in 1856, by Veitch, of Chelsea. Amongst the already known white striped Camellias, it is remarkable for the bold character of its broad, deep green, glossy foliage, and of the size as well as purity and delicacy of colouring, and fine form observable in its flowers. Under favourable conditions, these flowers are as much as 4 inches in diameter, sufficiently full to form a rosette of pleasing outline, and made up of broad smooth-edged petals of remarkable substance, ranged in an imbricating manner, having a fine white ground, and marked with broad and well defined, but not crowded, stripes or flakes of a delicately rose colour; in the young flowers the petals assume a cup-like form, but when fully expanded, the outer ones become moderately reflexed, so that a larger proportion of their surface is brought into view.

Mr. Moore considers it one of the most beautiful varieties yet produced.

DOUBLE-FRINGED CHINESE PRIMROSE.

Var. *Atro rosea plena*.

This variety is an accidental seedling sport, raised amongst a batch of the single-fringed sort by Mr. W. Draycott, nurseryman, of Humberstone, near Leicester.

The original form of the species (*Primula prænites*) introduced into England about 40 years since, has the segments of its flower limb, smooth edged, with one terminal notch, and this is also the case with its white flowered variety; the variety *Fimbriata* which made its appearance about a dozen years after, has larger flowers, frilled or notched around the margin, and, at the present day, these fringed sorts (contrary to the law of florists), are the most esteemed.

This double-fringed variety is superior to any yet known, and the plant from which Mr. Moore's figure is taken, was awarded a first-class certificate not many months since, at the meeting of the Floral Committee of the Horticultural Society; its flowers are large, double, deep rose-coloured; the margins of the segments fimbriated.

PERSIAN CYCLAMEN.

We have four varieties of this lovely plant, valuable alike for its delicate flowers and handsome foliage. Messrs. Henderson and Son, of St. John's Wood, have paid particular attention to the plant, and have selected from a large number raised from seed, four distinct forms, exhibiting a great and pleasing diversity of colour; these, too, are remarkable for the increased breadth, and more obtuse outline, of their curiously reflexed flower lobes, as compared with the original species.

The varieties are—

Rubrum: flowers large, segments broad, obtuse $1\frac{1}{2}$ inches long, clear Magenta-red or reddish rose-purple, with a purplish-red blotch at the eye or base of the segments.

Marginatum: flowers rather large, segments broad, obtuse, $1\frac{1}{2}$ inch long, bluish-white, of a more decided blush at the tips, the eye bright rose-crimson.

Marginatum-purpureum: flowers resembling those of *marginatum*, but the eye or blotch is purple.

Pallidum: flowers large, the segments broadish obtuse, $1\frac{1}{2}$ inch long, white, with a pale rose or deep blush coloured eye.

SILVER VARIEGATED BRAKE FERN.

Pteris Argyraea.

This interesting Fern, which was described in the "Gardeners' Chronicle" of 13th August, 1859, is a native of Central India, and was introduced by Veitch and Son; both the Floral Committee of the Horticultural Society, as well as the Royal Botanic Society, have awarded it a first-class certificate of merit.

It is particularly noticeable for the broad silvery stripe down the centre of the pinnæ, this stripe being produced by the base of each segment, for a quarter of an inch or more of its length, being of a silvery grey instead of green, like the rest of the frond, and this occurring on both sides of the midrib or rachis, the two pale coloured portions blend together into a longitudinal white stripe about $\frac{1}{4}$ of an inch in breadth.

Correspondence.

VINE-DRESSERS.

To the Editor of the *Agricultural and Horticultural Gazette*.

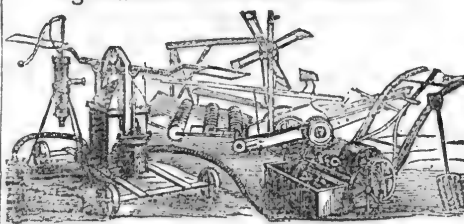
Sir,—A great deal has been said, and doubtless something has ere this been done, in reference to the introduction of Vine-dressers from the Continent of Europe into this colony, under our recent "Regulations for the introduction of Immigrants." As the subject is one on which great diversity of opinion exists, and as all must allow that it is a subject of vital importance to this particular branch of our industrial resources, it may not be out of place at this particular juncture, to invite discussion or at least to solicit the opinion of practical men, and also of political economists.

That this is the colony,—that this is the district where the cultivation of the Vine will, at no distant date, attract the attention of a large number of our proprietors of land, is beyond all question. It has been satisfactorily demonstrated that soil, site, and ordinarily, seasons, are all that can be desired where Vine culture is the object sought.

There have also been introduced varieties of the Vine which are best suited to the purpose of Wine making, and we can command any and all varieties that are considered good for this purpose in the older colonies, and throughout the whole world. With all these things in our hands, or within our reach, what is it that prevents us from entering upon the cultivation of the Vine, to such an extent that in the course of a few years we might be able to produce Wine for home consumption, as well as for export.

Is it with a knowledge of these facts, that our paternal Government has issued Regulation 3 in their Assisted Immigration Scheme? I am not about to attack the said Regulations; but in regard to this one which has special reference to Vine culture, I think we might attain the object sought, viz., the Vine-dressers, much nearer home. That we have men amongst us who thoroughly understand Vine-dressing, is unquestionable; we have them, Sir, in our midst; we have them engaged in occupations the farthest from Vine-dressing. We have men superiorly competent from other places besides the Continent of Europe. Men from a "tight little

Agricultural General Machinery.



BURGESS & KEY,

Prize Holders for the best Articles,

35, NEWGATE-STREET, LONDON; WORKS, BRENTWOOD.

THE Australian Medal of the Geelong Agricultural Society has been awarded to BURGESS & KEY, whose goods are patronised by Her Majesty the Queen, the Prince Consort, the Emperor of the French, &c., &c.

Prize Reapers and Mowers	Chaff Cutters
Ploughs and Harrows	Portable Steam Engines
Prize Horse Rakes	Threshing Machines
Prize Haymakers	Prize Carts and Waggon
Pumps, Cast Iron and Lift	Saw Mills
Fire Engines for Farms, &c.	Portable Wool Presses
Churns, Anthony's Patent	Turnip Cutters
Oat and Corn Mills, Portable	Wool Presses.

BURGESS & KEY always have a large stock of every description on sale to suit Agriculturists and Shippers.

All Goods carefully packed and shipped.

Orders to be made payable by London Houses.

THE EUROPEAN ASSURANCE SOCIETY.

Empowered by Special Act of Parliament, 22 Vic., Cap. 25.

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Geelong Agency:

Mr. BENJAMIN SCOTT, Moorabool-street.

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D. S. CAMPBELL, Esq.
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W. T. MOLLISON, Esq., M.L.A.

Guarantee Department.

RATES of Premium determined according to the nature of the situation for which security is required. If a Life Assurance be effected, the guarantee premium will be reduced in proportion to the relative amounts of guarantee and life. When equal, the guarantee premium is only 9s. per cent.

Life Assurance Department.

Life Policies issued upon the faithful representations of assureds are indisputable.

Three-fourths of the profits of the Society are divisible among the policy holders on the "With Profits" Table of Premiums.

Assurances are granted either with profits, or, at lower rates, without profits.

Premiums may be paid in one sum, or by yearly, half-yearly, or quarterly instalments. They are such as are charged in Europe, and the lowest that can be adopted with full security to the assured and to the Society.

Policies are not forfeited as in other Societies. When four years payments have been made, the policy holder, if unable or unwilling to continue paying, may receive a fresh policy in exchange, equivalent to the then value of the premiums already paid; or a cash payment in purchase of the policy.

Forms of Proposal, and every information, may be had by applying to

MICHAEL O'GRADY,

Secretary, European Assurance Society,
99, Collins-street west, Melbourne; or to

BENJAMIN SCOTT,

Agent, Moorabool-street, Geelong.

Money to Lend.

GEORGE WRIGHT

HAS £1500 to Lend, in sums of £300, on approved securities.

island," and men from "North o' Tweed," whose attention has been directed to this particular branch of the science of Horticulture, who are fully competent, from a considerable number of years practical experience, to undertake the care and management of Vineyards, as also of what I more particularly wish to submit in this communication, which we might not inaptly term, *the Cultivation of Vine-dressers*.

If our Executive are really sincere in their expressions about making our Model Farms and Experimental Gardens answer the purposes for which they were established, and not kept up as so many snuggeries for the hangers-on of this or that particular party who happens to be in power, when these several institutions were inaugurated, or when vacancies occur therein, I could sincerely wish, Sir, that the attention of this same Executive could be directed to this subject of Vine-dressers. The following brief suggestions may perhaps elicit the opinions of practical men, and so that we can attain the object sought, it may be nothing worse eventually for differences of opinion having been expressed, and the good, useful, and practical retained and acted on, and the residuum rejected.

I should suggest, sir, that the Government should institute a MODEL VINEYARD. For this purpose let a certain number of acres be set apart, in a suitable locality, and let the same be under the superintendence of the best qualified practical Vignerons it is possible to procure. Let a certain number of youths be placed with this person for a period of, say three or four years; let them be apprentices to the Superintendent under certain conditions, and as the Vine does not require attention during the whole of the year, I would devote a certain portion of the land to other Crops, and thus make the institution almost self-supporting from its commencement, yet, never losing sight of this one feature of the establishment, that these youths are to be, when they have completed the term of their engagement,—practical, competent, and certified Vine-dressers. Who would object to placing their sons under a suitable person as Superintendent of such an establishment, with a view to such results? Should there be persons who would not consider it likely to prove either useful or sufficiently respectable, I would turn then to our would-be philanthropists and say, make it a juvenile reformatory under a suitable head, this would be also a self-supporting institution, details of which might be of the simplest character. There is yet another view of the case, and that not least worthy of special attention by our capitalists, I allude to those yet-to-be-established "Vine Growers Associations," and Joint Stock Vinegar Companies," which must sooner or later occupy the attention of our fellow-Colonists. Hoping to see the subject taken up by abler hands, I apologise for the length of these unconnected, crude, but important suggestions.

Might not this subject form a suitable topic for discussion in our recently established Horticultural Improvement Association?

Yours, &c.,

B.

Geelong, April 29, 1861.

THE VINE.

The vine at Hampton Court, England, is the largest in Europe, its branches extending over a space of two thousand three hundred feet. It was planted from a slip in the year 1768, and generally bears upwards of two thousand bunches of grapes, of the black Hambro' kind. The original vine from which this cutting was taken, still flourishes in Essex, at the seat called Valentines, in the parish of Ilford, near Wanstead, where it was planted in 1768. In 1835 it bore four cwt. of grapes; the stem girthed twenty-four inches. In one season £300 was realised by the sale of its fruit.

Victorian Exhibition, 1861.

For the information of our Subscribers and readers, many of whom will, we trust, be exhibitors at the forthcoming Exhibition, preparatory to the London International Exhibition of 1862, we publish the quantities which have been decided on by the Committee, as suitable for competitive exhibition.

AGRICULTURAL PRODUCTS, AND THE MANUFACTURES AND PRODUCTS CONNECTED THEREWITH.

Committee.—Charles Gavan Duffy, Esq., M.L.A.; William Clarke Haines, Esq., M.L.A.; Robert McDougall, Esq.; Charles E. Bright, Esq.

Section I.—VEGETABLE KINGDOM.

- A.—Cereals commonly cultivated in Europe, 2 sacks.
 B.—Cereals cultivated elsewhere, 2 sacks.
 C.—Millet and other small grain used as food, 2 half-cwt. parcels.
 D.—Pulses and cattle food, 2 half-cwt. parcels.
 E.—Grasses (artificial), fodder plants, and agricultural roots, 2 one-cwt. parcels.
 F.—Flours, or preparations of the above classes, 2 barrels.
 G.—Starches of all kinds made from wheat, maize, potatoes, &c., 2 half-cwt. parcels.
 H.—Oils, seeds, and their cakes, 2 half-cwt. parcels.
 I.—Hops, and other aromatic plants used for like purposes, 2 one-cwt. parcels.
 K.—Malt, and other vegetable substances used in brewing, 2 one-cwt. parcels.
 L.—Ale, beer of any description, 2 barrels.
 M.—Miscellaneous.

Section II.—ANIMAL KINGDOM.

ANIMAL FOOD AND PREPARATIONS OF FOOD.

- A.—Meat, salted, smoked, or dried, 2 one-cwt. parcels.
 B.—Meat (preserved), jelly, gelatine, albumen, and portable soup, 2 tins each.
 C.—Milk, consolidated or preserved, 2 tins each.
 D.—Butter, salted or preserved, cheese, 2 kegs each.
 E.—Honey, and its preparations, 2 jars each.
 F.—Blood, and its preparations.
 G.—Industrial products, as glue, &c.
 H.—Hides, raw salted, dried, 2 hides or skins of each.
 I.—Miscellaneous.

Societies.

Horticultural Improvement Association.

The monthly meeting held at the Mechanics' Institute on Wednesday, the 24th instant, was attended by nearly forty members.

The minutes of the previous meeting having been read and confirmed, the members proposed last month were ballotted for, and duly elected.

Nine new members were proposed, viz., John Ware, Esq., Mrs. J. G. Ware, Messrs. J. F. Leven, Hugh Fraser, J. Balding, Silas Harding, Thomas Bray, R. Brewster, and R. Cossman Kritzer.

The Secretary read a letter from Dr. Mueller, Government Botanist, stating that he would have much pleasure in forwarding at an early date a supply of seeds, &c., for distribution amongst the members, especially as the Society had been formed for the purpose of promoting Horticulture; and at the same time, he expressed a hope that the recipients would allow the Botanical Gardens in Melbourne to participate in any riches they might accumulate in their respective gardens.

Messrs. Heath and Cordell submitted a proof of the design which had been chosen for the Honorary Certificates of the Society, which was universally admired.

The same gentlemen laid on the table, as the commencement of the Society's Library, four bound volumes of the *Agricultural and Horticultural Gazette*, and the thanks of the meeting were voted to them for the donation.

Mr. Thomas Adecock, of the Kardinia Nursery, exhibited a stand of dwarf Chrysanthemums all remarkably choice; there were "Niobe," (a perfect gem); "Scaramonche," "Fantasio," "Madame Guerin," "Favorite," "Crassus," &c. He also laid on the table some fine specimens of the Lemon (Orange?) Gourd, and two specimens of the sweet Potatoe.



Treasury,
Melbourne, 30th April, 1861.

Forage.

TENDERS will be received until Noon on Tuesday, the 21st May, for the supply of FORAGE in such quantities as may be required at the undermentioned stations during the remainder of the year 1861.

DISTRICT.	STATION.	ESTIMATED QUARTERLY CONSUMPTION.			
		Oats, lbs.	Bran, lbs.	Hay, lbs.	Straw, lbs.
Ballaarat.	Buninyong.	—	—	3780	1080
Geelong.	Viaduct.	—	—	1260	360
Rokewood.	Lethbridge.	—	—	2520	720
"	Clarendon.	—	—	2520	720
"	Stelglitz.	900	90	1260	360

Further particulars, and forms of tender, may be obtained at the Government Stores, Melbourne, or from the officer in charge of the police at each station.

Tenders, endorsed, "Tender for Forage —," are to be deposited in the box at the Government Stores, or addressed to the Government Storekeeper, Melbourne.

GEO. VERDON.

JOHN EDEN,

Land Agent, Surveyor and Valuator, &c.,
24, RYRIE-STREET EAST, GEELONG.

HAS FARMS to LET and SELL, from 40 to 500 Acres, on very moderate terms.

N.B.—Conveyances and Leases effected; also, sums of money to lend on real property, from £100 to £1000.

PRELIMINARY NOTICE.

Farm at Duneed.

GEORGE WRIGHT

Is instructed by Mr. George Windsor, to sell by auction on an early day, of which due notice will be given—

HIS Farm at Mount Moriac, opposite Marnell's Hotel, containing 58 Acres, together with the Homestead, Farm Buildings, and all improvements.

Terms liberal. Title perfect.

THURSDAY, 9th MAY, at Twelve o'Clock.

Important Unreserved Sale on the Farm of HENRY PHILLIPS, Esq., at the Lovely Banks.

Horses, Dairy Cattle, Working Bullocks,
Young Bulls, Pigs, Farming Implements, Household Furniture.

ALSO,

Seed Wheat, Barley and Oats,

AND

THE ENTIRE HORSE, "EMPEROR."

OGILVIE & ROBINSON

Have been favored with instructions from Henry Phillips, Esq., to sell by public auction, on his Farm, at the Lovely Banks, on Thursday, the 9th May, at 12 o'clock,

SEVERAL USEFUL FARM HORSES

- 2 Teams working bullocks
 Dairy cattle
 Lot of young stock
 2 Durham bulls
 Several very well bred pigs
 One three-horse power threshing
 One reaping and threshing machine
 One reaping and mowing machine
 Winnowers, ploughs, harrows
 Drays, harness, &c.

HOUSEHOLD FURNITURE,

And about

120 Bags SEED WHEAT, OATS, and BARLEY.

Also,

- 4 Stacks straw
 1 Small stack hay
 Quantity fowls

The imported Entire Horse,

"EMPEROR,"

Two years old, 16½ hands high, large bone, and good action, by that celebrated horse, "Young Champion."

Terms at sale.

Mr. Myles (gardener to J. J. Calvert, Esq.), brought some stupendous Cockscombs, not however very symmetrical; and Mr. King some Arrow Root plants grown by him on the Barwon. Mr. Barton's plant of *Clerodendron fallax* was remarkably handsome, and was deservedly admired; he had also a well flowered *Achimenes rosea grandis*.

Mr. Mitchell's "Little Treasure" Fuschia was very good.

Mr. Sydney Powney, of Newtown, then read the following paper on the

PROPAGATION OF THE PEAR.

The Pear (*Pyrus Communis*), of Linnæus, belonging to the class *Icosandria* and order *Pentagynia*, in the Natural Order *Rosaceæ*, is a native of Britain, and is well known to be one of the longest livers amongst Fruit Trees. Mr. Knight observes that the same trees which supplied the inhabitants of Herefordshire with Perry in the seventeenth century, is likely also to supply those of the nineteenth. The Pear ranks next to the Apple in point of usefulness, as it is not only employed in various ways as a culinary fruit, but the well known liquor, Perry, is an article of commerce in several counties in England. The French prepare a Perry which is little inferior to wine; they also dry some of the bad eating sorts of Pears, which they keep for several years. I believe the climate of Victoria, as well as many of her soils, well adapted for the extensive growing of the Pear tree, and I see no reason why we should not hope the day is not far distant when we shall not only see but realise that an excellent Perry, quite equal to the French Perry, can be prepared in Victoria for home consumption, if not for export,—a good wholesome drink such as no one would refuse to taste. Taking this view of our subject, we may say—

"He who plants Pears,
 Plants for his heirs."

The Pear Tree will grow in almost any soil, but the soil most suitable is a heavy loam, because it retains more moisture than any other soil. Where the subsoil is of clay, I should recommend artificial bottoms of a barrow or two of rubble of any kind; but if of limestone or gravel it is not needed. The preparation of the soil I consider one of the most essential things to be observed in the future prospect and support of all fruit trees. Trenching and draining are the best modes of preparation; as Mr. Neilson well said the other evening "Drain dry soil to make it moist, and wet soil to make it pulverous," or in other words, drain to admit the percolation of moisture. With sufficient freedom in trenching in this colony I should say never bring the subsoil to the top, but keep the top soil on the top for this reason,—the subsoil from the absence of decayed vegetable matters is too sour in many cases for the young trees to strike off in, and years will roll round before they make any progress. This I have witnessed. The nature of the soil must regulate the operation, but in an ordinary way eighteen inches is deep enough, with the bottom of the trench broken up or loosed with a pick, indeed the bottom of no trench is finished without. The drains should at least be nine inches or a foot below the bottom of the trench, and filled up even with the subsoil, with every kind of rubble or ashes, or branches of trees, cut and laid in straight upon the drain tiles. I prefer Pears grafted on the Pear stock, for this reason, that Pears worked on the free stock will grow on almost every soil, whereas Pears worked on the Quince, will only thrive on alluvial or fine moist fertile soil, such as is washed down into valleys; there they will continue to luxuriate; and where the Quince will grow well of itself there will it thrive best when grafted or budded with the Pear, but if planted on higher or lighter soils, the soil at least where the tree so worked is planted, should be made artificially.

Some think the Pear grafted on the Quince will communicate some of its austerity to the Pear, but Doctor Lindley and Mr. Knight are of the con-

trary opinion, that as soon as the Pear graft throws out its leaves, the sap of the Pear graft preponderates. I am very much inclined to the same opinion; then there cannot be the very great objection to Quince stocks when the soil is properly prepared; it is highly necessary that all fruit trees in this colony should be planted early,—begin with the May month,—so that the wood is ripe it matters not whether all the leaves are off or not, the main point is to get the trees established before the dry weather sets in at the Spring. There is a great objection to deep planting; for this reason, the Pear will naturally deepen itself, therefore I have ever found it in my practice best to plant my trees, regardless of soils, as near the surface as possible. All newly planted trees should be mulched until the trees become large enough to shade their own bottom to preserve the young fibres from the rays of the sun; it also helps to pulverise the soil, and adds vigour and fertility to the tree. The mode of pruning is one then on which a great difference of opinion exists, but this we will divide into two heads, Pruning, and Root Pruning:—First, pruning—I follow the old Scotch adage, "What you cut, cut close," that is when the Tree is planted from the nursery, if it is for a standard, prune it back to three eyes from the bud or graft, but if for a half standard, prune back to three eyes to where the Tree was topped the year before; but this should not be done when you plant your Tree, but in early Spring just as the sap is beginning to rise; after this I never top a leader, but should recommend that the standards be left to form their own heads, only thinning them as needed; but prune all half standards close to the rods or principal branches, leaving nothing but the fruit-bearing or blossom buds. I know that it is the practice of some to prune back the off shoots to about two inches, but I repudiate that practice from experience; I have never found it to answer the purpose, as they say, of producing fruit-bearing buds, but on the contrary it fills the Tree full of useless wood. The Pear Tree often grows rapidly for years without bearing any fruit, and many are the remedies to make it bear; some will recommend topping it back, others to take his head off and let it make a fresh, some say you must ring the bark and so wound the tree; but root pruning is the only remedy I have found. If the Tree be over luxuriant dig down to the roots, examine it there and see if there is not a tap root; this must be cut back nearly close, and if there be any wild rambling roots, these must be pruned back according to the size and strength of the Tree; where you prune your roots back with a sharp instrument they will throw out new fibres and must cause a corresponding degree of fruitfulness. If the trees be stunted from being planted in bad clayey soil, the roots should be pruned, and the bad soil taken out, and a barrowfull or two of good maiden soil put in its stead; thus root-pruning skillfully performed, although rather an unnatural process, will check the over luxuriance of the one, and make the other to grow. I have adopted my reading, as far as my experience has gone, to this Colony, therefore I have not had to treat on the various modes of training; but in small gardens there is one mode of training that will be both ornamental and useful, namely,—letting the Tree grow with one main shoot as for a standard, top when about seven or eight feet high, and tie as many branches down, willow-shape, as will form a handsome tree; the Pear requires but little manure beyond the mulching, or a little liquid manure to keep them growing is all that is needed.

This paper evoked considerable discussion amongst the members, Messrs. Adcock, Myles, King, Clark, son, H. Adcock, Boysell and others taking part in it; but as the subject appeared still to afford a field for further consideration, it was proposed by Mr. Batson that it be re-opened at the next monthly meeting, on the 22nd May, when, no doubt, there will be a large muster of the members.

Glendaruel Agricultural Society.

This Society's Exhibition took place a few days since at Clunes, and is reported by the local papers as having been decidedly successful, and very great interest was manifested in it; the rooms were densely thronged from the opening to the close of the Exhibition.

In class A, Mr. Dougall's imported entire, "Renfrew," and Mr. Everingham's colonial entire, "Black Champion," took prizes.

In class B, Mr. Faulks took first prize for 8 bushels Winter Wheat, 4 bushels of which subsequently sold for 11s., and the remainder at 9s. per bushel. Spring Wheat, for which Mr. Charles Sutton took a first prize, sold at 8s., and the second best at 7s.

The Tartarian Oats, for which a first prize was awarded to Mr. Warren Porter, were all bought up at 11s. by Mr. Sim. Mr. Kemp's Cape Barley fetched 11s. per bushel.

In class C. there were some good Potatoes, the early fetching by auction 8s., and the late 6s. 6d. per bag. Some Carrots exhibited were highly commendable.

In class D, one of Tynan's Ploughs took first, and one of Hansby's second prize. Mr. William Faulks was also awarded prizes for best Harrow and best Scuffler.

In classes E and F, there were some good Pigs, Poultry, and Eggs. In class G, Mr. Lachlan Campbell successfully exhibited 14 lbs. of Salt Batter, and Mr. George McKenzie, two colonial Cheeses; the exhibits of Mrs. Hamewait and Mrs. A. Clark being recommended.

In class H, Messrs. Kinnear took a prize for best collection of Dairy utensils.

In classes I. and J. there were Melons, Pumpkins, Grapes, Peaches, Field-peas, and Vetches.

In Extras, Mr. W. Faulks gained a prize for best Lettuce, Onion, and Leek seeds; also for Oyster-plant, Sugar Beet, Turnips, (red,) and for Apples.

A prize for Maize was awarded to Mr. Kemp, but some from near the banks of Tullaroop (Creswick) Creek, at Clunes, exhibited by Mr. J. W. Richmond, but sent in too late for competition, was of an amazing height.

Mr. Warren Potter exhibited a capital Winnowing Machine, and was awarded a prize for the same.

Smeaton, Spring Hill, and Bullarook.

The second Annual Exhibition of Grain and Produce, was held on the 10th instant, in the new ground belonging to the Society; it is about an acre in extent, the whole closely fenced, and good folding gates erected at the entrance. In the interior is a shed for the display of grain, 60 feet by 15 feet, and the Society purposes erecting others, as soon as their funds will permit.

The Show was confined principally to Grain, but the number of exhibits was not so great as might reasonably have been expected at this season of the year.

The show of Wheat was on the whole good, some splendid samples being exhibited. For Winter Wheat, weighing 66½ lbs., Messrs. Anderson took first gold medal; and Messrs. Blyth, the silver medal for wheat weighing 66 lbs. In Spring Wheat the latter gentlemen took first prize, their exhibit weighing 67½ lbs.; the second prize being awarded to Mr. S. Moore, for a sample of 66½ lbs. weight.

Tartarian Oats, first and second weighed respectively, 45½ and 43½ lbs.; and Short Oats, 49 and 45 lbs. For a bag of white Peas, Mr. Birch took a first class prize.

In class B, including Roots and Farm produce, the Potatoes were remarkably good, and Mangold Wurtzel of most astounding proportions, red and yellow. Mr. Kemp was awarded the prize for the best collection of Farm Produce; Mr. Thomas Clark

for Flax and its seeds; and an extra prize was given to Mr. J. Haylock for a collection of Garden Seeds.

In class C, the Pigs were certainly very deserving of remark,—one hog weighing 450 lbs., and his owner asserted that he could increase it by 200 lbs.

In class D, there were some good Poultry, Eggs, Butter, fresh and salt, for which two silver medals were taken by Mr. John Allen, who also received a prize of £2 for Cheeses.

After the Exhibition, the exhibits were disposed of by auction, but a great portion of the Grain was bought in by the owners. Messrs. Anderson's prize wheat, sold for 10s. per bushel, and Messrs. Clyne's Wheat (winter), which took a prize at the Ballarat Show, but was unsuccessful here, fetched 11s. 6d. per bushel. Messrs. Kemp's Short Oats, 7s. 9d. The Pigs, with one exception, were bought in, and in the Poultry class, Messrs. Eales & Co.'s three young Turkeys fetched £2, and the same price was obtained for Mr. Macey's three Spanish fowls, and also for his Muscovy Ducks. The Dairy Produce only fetched market price. The proceedings wound up with a dinner at the Farmer's Arms Hotel, and the Secretary in returning thanks for the Society, spoke at some length of the advantage arising from Agricultural Societies, "If in the old country (he remarked) they were so beneficial, how much the more valuable were they here, where the Farmers had mostly been growing only the unvarying crops of Wheat, Oats, and Potatoes, without paying attention to the smaller matters, which were so much required to make farming, at the present time, a profitable occupation. He thought great advantages were likely to accrue by sending Judges from one Society to another, thus linking them together throughout the Colony."

South Gipps Land Farmer's Club.

The fourth annual Exhibition, under the auspices of this Society, took place at Tarraville, on the 16th inst.; and although the inclement weather prevented a large attendance of visitors, the exhibitors kept up their previous character for the excellence of their garden and field produce.

The wheat shown was remarkably good; more particularly a sample of white wheat grown by Mr. W. Scott, of Yarram Yarram, which weighed 65 lbs. per bushel, and was in splendid condition. The same exhibitor also showed some bags of very fine blue and yellow peas, and a sample of malting barley which could not be surpassed in Lincolnshire.

Amongst the vegetables, the turnips and cabbages grown by Mr. Robert Hewitt, near Alberton, were really magnificent. He attributes their excellence and size to the use of Flat Island guano as a manure.

We were particularly pleased to see the white clover seed grown by Mr. Wood, of Yarram Yarram. The sample was very good, bright, and clean, and fully demonstrates the suitability of South Gipps Land for its production. White clover is fast working a revolution amongst the farmers here; its rapidity of growth, its permanency and peculiarity of keeping itself free from weeds, and its entire success in increasing the amount and excellence of dairy produce, makes it the most valuable improvement in our farming which has yet taken place; and we know of several, who, through the high price of labor, and having to contend against foreign imports, were fast losing money by agriculture, that are now gradually recovering their previous position by the dairy produce got from their clover paddocks. Luxuriant in its growth, nutritive in its quality, and sweet in its flavour, it is the most valuable addition to our artificial grasses.

Butter and cheese were, as usual, good.

There were some very fine sheep exhibited, nearly all belonging to the Cotswold and Leicester breeds. The ewe belonging to J. L. Davis, Esq., of Woodside, was a splendid animal, and was much admired, as was the Cotswold ram, the property of Dr. Healdy.

The prize was awarded to Mr. Nichol's entire, but disallowed by the Committee.

A sow, belonging to Mr. Adams, of Port Albert, was a perfect picture to the admirers of the hog kind. Mr. Ford's old boar was, as usual, a standing dish for a prize, as nothing amongst his competitors has ever reached his excellence of form.

The fowls were very good; the Spanish of Mr. Crisp, the speckled Hamburgs of Mr. Bowden, and those beautiful creatures, the pencilled Hamburgs of Mr. Fermanners, all attracted attention.—*Guardian*.

Villiers and Heytesbury Agricultural Association.

The Annual Show of this Society took place at Belfast on the 4th inst. From the list of awards received we notice there were 14 entries for Wheat; that of Mr. Fisher, which took first prize, weighing 66½ lbs.; that of Mr. Officer, second prize, 64½; and Mr. Bicknell's, of Yambuk, third prize, 65½ lbs.

For Potatoe Oats there were two entries; Mr. Officer's exhibit took first prize, and weighed 49 lbs.; Messrs. Atkinson and James, of Koroit, were the only exhibitors of Tartarian Oats; they weighed 43½ lbs.

Mr. A. McNiel's English Barley weighed 54½ lbs. Two samples of Guano were exhibited by W. Rutledge and Co., one from the Julia Percy Island, and one from Flat Island; prizes were awarded to each.

The Committee expressed surprise at the scarcity of vegetables, cattle, poultry, dairy produce and implements, and the utter absence of fruit.

An Exhibition of the same society took place at Warrnambool on the 11th inst.

For Wheat there were nine entries.

1st prize, W. Fisher, weighed 66½ lbs.
2nd " T. Denney, " 66½ "
3rd " J. Officer, " 64 "

For the prize of £20 offered by Messrs. Degrove, of Melbourne, for the best 1000 bushels of Wheat grown in the district, there were three competitors, and the prize was awarded to Mr. Fisher of Yambuk.

Mr. Officer's Potatoe Oats were prime, and weighed 46 lbs.

No Potatoes! no Cheese! only one entry for Butter! and this in the finest agricultural district in the colony. When will our farmers pay attention to these important matters?

DISTILLATION.—On Friday next, a part of the Distillation Question is to be brought before Parliament, in connexion with the amounts to be charged as license fees on Stills. Two bills are to be introduced on the subject, one embracing this part of the question, and the other the amount of duty to be charged on spirits made in the colony. On the same day, it is also to be decided whether the exportation of Victorian Guano is to be allowed or not. It is scarcely to be supposed that a majority of the members could be induced to sanction any such prohibitory measures as are asked for; but those who are in favour of a high export duty, should satisfy themselves as to how long in any case our own deposits are likely to last, before we will have to import from the neighbouring colonies.—*Argus*.

DISEASES OF MEN AND ANIMALS.

We make no apology to our readers for the length of this extract from the inaugural address on "Relations of Veterinary to Social Science," delivered by Professor John Gamgee, principal of the new Veterinary College, Edinburgh; more particularly as it has become a matter of serious importance to us to ascertain how far and in what particular cases infection can be carried to animals through the medium of man.

In the first place, men and animals are subject to similar diseases—to diseases communicable one to the other, and to diseases which spontaneously originate either in man, in some instances, or in the lower animals in others, and are transmitted from first to second, or second to first, without other means of development or propagation. The study of diseases, in their comparative relations in different animals, constitutes the science of Comparative Pathology. It must be obvious to all that the amount of danger man incurs by living amongst animals, under different circumstances, should be known, but on this most important subject we need means of determining the spread of diseases in animals, their nature, and the extent to which they are committing ravages. That there are many unsuspected sources of disease in man, from the prevalence of disease in animals, is often suggested, but positive facts are with difficulty obtained. I must illustrate my meaning. In different parts of England, Scotland, and Ireland, cattle are subject to anthrax, commonly known as quarter-evil, or by the more ludicrous epithet, 'black leg.' We have to thank our northern latitude for the rare development, in these cases, of the virulent anthrax poison, which destroys many human beings in warm climates. So destructive is this poison, that flies resting on the carcasses of animals that have died of this disease, or even on the parts affected in the living animal, may fly on to a man's face or hand induce malignant pustule, and death in a short time. Though such accidents are doubtless extremely rare amongst us, we must not take it for granted that they do not occur. Dr. Keith, of Aberdeen, related a case to me, where disease and death spread through the family of a man who dressed a carcass of an ox that had died of quarter-ill; and had we better means of collecting information on these subjects, many similar instances would doubtless come to our knowledge. A cutaneous disease of very common occurrence in cattle, and which generally receives the name of ringworm, is a pustular eruption communicable to man; and I have often seen bad boils—a furunculoid eruption—on the hands and arms of those attending these animals, which has led to considerable indisposition, and been difficult to cure. Again, I may mention the vesicular murrain so prevalent in cows, attended with the development of a virus, which is often squeezed into the milk-can as the cow is milked. Such milk, drunk warm, will kill calves and pigs, and induce fever and cutaneous eruptions in men. Why shall it not be attended with dangerous and fatal consequences when partaken of by the infantile portion of the population, which consume so large a quantity of the dairy produce! But of late years considerable interest has been excited by the metamorphoses of parasites. In a piece of pork a few yellow specks or transparent vesicles, which do not appear of the slightest importance, may in reality be tapeworms in one stage of development, for the destruction of which we have to hope for prolonged boiling or efficient roasting. If the meat be eaten undone, a parasite at once develops in the human intestine, which it sometimes baffles human skill to displace. The veterinary surgeons throughout the length and breadth of our land should be accurately acquainted with the parasitic diseases of animals; and, however unattractive the study at first sight may appear, no scientific mind can fail to appreciate

the advantages to be derived from a more extended knowledge of Helminthology. Therefore, gentlemen, the sources of disease in man which are to be discovered by studying the diseases of animals, are far from few and trifling, and facts regarding them should claim the attention of the veterinarian. On this very interesting subject I have to recommend perusal of two very lucid and elaborate papers by Dr. Lindsay, of Perth, and my esteemed friend, Dr. Richardson, of London. Both these important contributions to comparative pathology were published in the first volume of the *Edinburgh Veterinary Review*; and I am proud to think that our annals of comparative pathology should contain the contributions of men so fitted to act as pioneers in the study of the sciences to which that journal is devoted. Secondly, the diseases of men and animals are often due to similar causes. They are the result of cognisable agencies which operate alike on all living things, and their investigation, though almost exclusively engaged in by the medical men should occupy the time and attention of enlightened veterinary surgeons. The evil results of over-work, over-crowding, absence of light in stables, as in dwellings, of artificial diet, of the nature of food as changed by modern cultivation, and the influence of such changes on animals, all constitute vast subjects for enquiry. The mysterious nature and operation of enzootic as of endemic influences, of epizootic as of endemic influences, of miasmata and contagion, should as constantly occupy the members of our profession, devoted to the study of sanitary subjects, as the members of the profession of human medicine. All these researches, and in fact, every part of veterinary science, has a bearing on agriculture. It is a fact worthy of notice, that the Medical Officers of Health of the City of London—amidst their most interesting and intricate researches as to the influence of sewage emanations, and a host of similar causes that are to be observed in all crowded cities, contributing to fill our hospitals and swell mortality lists—specially allude to the injurious influence exerted by stables and byres. In these matters, backed by adequate authority, veterinarians should effect much good. The *Medical Times*, in an article on the development of sanitary medicine, commenting on a report by Dr. Lankester, says "Stables are necessary nuisances. Horses or donkeys we must have; but then we ought to take especial care that they be kept in a suitable and laudable manner—i.e., up to the level of scientific sanitary requirement. But how seldom are they so kept! There are," writes the Doctor, "few sources of nuisance which are more constantly complained of than ill-kept and ill-drained stables." In his own parish, he, Dr. Lankester, has waged great and Garibaldian (successful) warfare against these Augean quarters, and reports the abatement of 208 out of 268 stable nuisances complained of. Happily, as it appears, the owners of horses are more readily worked up to proper sanitary sentiments in behalf of their quadrupedal slaves, than householders usually are on behalf of their biped tenants. As Dr. Lankester says, "The reference to the notices of improvement in the stables showed that the owners were quite alive to the value of the health of the animals that lived in them; a response which it is sometimes difficult to arouse in behalf of the human occupants of houses needing sanitary amendment." Dr. Lankester's experience is encouraging, and it shows how, backed by the influence of authority, a person can accomplish that which, on the simple advice of professional men, can rarely be secured. Many of us have waged war against the denizens of filth and disease in which cows are kept, but we cannot boast of the success which has attended the assiduity of Dr. Lankester as Medical Officer of Health. Sanitary reformers in considering the history of epidemics have of late years disregarded far too much, in my opinion, the contagious nature of diseases. Cholera, typhus, yellow, &c.,—undoubtedly most destructive under the influence of defective hygiene—are mala-

dies characterised by the development of a specific poison, which the Germans have termed the *contagium*, or principle by which contagion is effected. The investigation of the nature of contagium, of the many circumstances which influence and favour, or check it, presents to the veterinarian one of the most practical objects for inquiry that I am acquainted with. As Dr. Richardson says, in the article before alluded to, the production of maladies by the discovery of their poison, which Dr. Lindsay accomplished in regard to cholera, is one of the best means to settle questions relating to the origin of disease; and by careful experiment much is to be accomplished which has never been regarded as obscure, and circumstances are reconciled which on a superficial observation have been regarded as contradictory. I may be permitted here to quote the concluding sentences of Dr. Richardson's paper. He says:—

"1. That by experiment it might be proved, in what excreta of an affected animal the poisons of certain specific epidemics are located. 2. By what surfaces of the body such poisons may be received, so as to excite their morbid effects. 3. Whether the virus of a disease acts, in the production of the phenomena of a disease, primarily or secondarily, i.e. by its own reproduction and presence, or by the development of another agent. 4. Whether the effect of climate, season, temperature, moisture, and the like, in their influence on the spread of epidemics, act by modifying the poison which excites the epidemic, or by modifying the condition of the individual who is exposed to the poison. While the solution of any one of the problems suggested above would be a fact of the time, the inquiries themselves lie open to the veterinarian even more invitingly than to the physician. His opportunities are greater for such researches, and his increasing science is leading his mind each day nearer to the appreciation of their worth."

[In connection with the above paper we may briefly state that Mr. Finlay Dun, (author of "Veterinary Medicines.") does not consider that *pleuro-pneumonia* is likely to be communicated from an infected to a sound herd through the medium of herdsmen, medical attendants, or others. Hay, straw, and litter which have been in contact with diseased animals, from possessing absorbent properties, are likely to retain and accumulate the disease producing particles, and thus convey the disorder to healthy animals, even though some time has elapsed. It appears to be necessary to the development of the disease by contagion, that some organic particles should in some way be transferred from the sick to the sound stock; occasionally they may be floated through the atmosphere, and so inhaled by the healthy stock, but this may be to a great extent obviated by cleanliness and proper ventilation.—**ED. GAZETTE.**]

PRIZE WHEAT.

In return for the prize wheat sent hence to Adelaide last year, the South Australian Agricultural and Horticultural Society have forwarded to the Governor, Sir Henry Barkly, three bags of their best Wheat of this season, to promote this friendly interchange of prize samples and superior new varieties, from which so much benefit may be derived. These three bags contain four bushels of the wheat from the hill country, which took the first prize at the last Adelaide show, 67½ lbs. to the bushel; four bushels of the first prize Wheat, grown on the plains, 66 lb. 14 oz.; and four bushels of a new and fine description of wheat called "Callaby's Purple Straw," and presented by Mr. Frame. This wheat has been handed over by the Governor to the Port Phillip Society, for distribution among the farmers here. In exchange, the Adelaide Society wish to

have a few pounds of the different sorts of grain which took the principal prizes here this year, and these are to be sent—as many of them at least as are to be obtained so long after the Show and consequent dispersion. It is the custom here to sell all the prize samples of grain by auction at the close of each exhibition, but it is still possible to procure small quantities of most of the best kinds. The first prize wheat was from Adelaide, so that need not be sent back again. For the future, it would be better to have a clear understanding between the two societies in regard to these exchanges, so that the best samples may be secured at the proper time.—**Argus.**

THE VINE AT MALMSBURY.

We glean from the Mount Alexander Mail, an interesting account of a visit to the garden of Mr. Davy, at Willow Creek Farm, about two miles from Malmsbury, to inspect the experiments of that gentleman in the cultivation of the vine:—

The quantity of ground is in all about one acre, one-third of which is occupied by the vineyard. It is situated on a gentle declivity, having a north west aspect, and well sheltered from all cold winds. The soil is a volcanic trap, and admirably suited, after trenching, for the growth and cultivation of the vine; this has been tilled and planted from three to five years, and here are now apple, plum, cherry, damson, apricot, peach and almond, growing luxuriantly, and bearing abundantly. The raspberry, strawberry, currant, and gooseberry, are also flourishing. The cherry, of which there are two sorts—the Kentish red and May Duke—have been most prolific. The same may be said of nearly every other tree. The vines—which at present are trained to single stakes—considering the season, presented a very healthy appearance, and although an abundance of the fruit had been gathered, still looked very bright with the remaining clusters upon them. Some of the vines trained over the path in arches, were completely loaded; not being thoroughly ripened, owing to the sun not being able to pierce through the arch of leaves above. The different sorts of grapes in the vineyard are the red and white Hermitage, Frontignac, Golden Chasselas (a fine grape), Black Hamburg, and the Reising, this last description having produced the finest bunches, many of which weighed upwards of a pound and a half. The Doctor intends, another season, training all the vines to trellis work, by which means the air, heat, and light, will be more equally distributed among them, and corresponding benefits are expected to follow. The great want in a vineyard is an experienced dresser at the proper season, but the high price of labor deters them from being employed here, as in other places of a similar description. This vineyard is, as yet, only in its infancy, having been planted but three years, and when the locality and its great height (1400 feet above the level of the sea) is taken into consideration, the result at present obtained must speak volumes in favor of this being a wine-producing colony.

REWARDS OF FIDELITY.—Never forsake a friend. When enemies gather around; when sickness falls on the heart; when the world is dark and cheerless, is the time to try true friendship. They who turn from the scene of distress betray their hypocrisy, and proves that interest only moves them. If you have a friend who loves you, who has studied your interest and happiness, be sure to sustain him in adversity. Let him feel that his former kindness is appreciated, and that his love was not thrown away. Real fidelity may be rare, but it exists—in the heart. They only deny its worth and power who never loved a friend, or laboured to make a friend happy.

ALPACAS.—A sum of £2,000 was voted on the 1st of May, by the Assembly, for the introduction of Alpacas, in order that the number of the flock now here may be increased, and that some more of the finer bred animals may be introduced to keep up the improvement in the quality of the wool of the increase.—**Argus.**

LITTLE THINGS.—Springs are little things, but they are sources of large streams; a helm is a little thing, but governs the course of a ship; a bridle-bit is a little thing, but see its use and power; nails and pegs are little things, but they hold the large parts of buildings together; a word, a look, a frown—all are little things, but powerful for good and evil. Think of this, and mind the little things. Pay that little debt—'tis promised—redeem it; if it is a shilling, hand it over—you know not what important event hangs upon it. Keep your word sacredly; keep it to the children; they will mark it sooner than any one else, and the effect will probably be as lasting as—Mind the little things.

To Subscribers.

In order to meet the regulations of the Post Office, it will be necessary that this year (1861) we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.

With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

The next No. will be published on 28th May.

SUBSCRIPTIONS received since our last issue:—

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AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
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VOL. V.—No. 6.

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The two Essays before us have each their peculiar excellencies. That by Mr. Belperroud contains a description of seven of the existing vineyards, enters deeply into the question of aspect and soil, and is very copious respecting the treatment of Vines. That by Mr. Pettavel is the most explanatory respecting the treatment of the soil and the management of the plants. We would not, even if we could, reproduce here the many valuable practical hints on these subjects which are scattered through the pages of these essays. Those who

would profit by them should get the book for themselves, and keep it as a work of reference throughout the year.—*Advertiser*.

The Essays which obtained the Prizes offered by the Geelong and Western District Agricultural and Horticultural Society, for the best practical treatises on the Cultivation of the Vine in this Colony, have just been published in the form of a pamphlet, and constitute an excellent manual for all *vignerons*, whether amateur or professional. The information imparted is grounded upon a thorough knowledge of the subject, and a lengthened experience acquired in the Western District of Victoria. Mr. John Belperroud, to whom the first premium was awarded, has been for sixteen years engaged in the cultivation of the vine at Berramongo, in the neighbourhood of Geelong; while Mr. Pettavel, the winner of the second prize, is also a practical vinegrower in the same vicinity. Both writers concur in the conclusions they have arrived at, and in the general tenor of the instruction they offer, and, guided by their treatises, the merest novice might succeed in this branch of horticulture, and in the production of genuine and wholesome Wine, choice in flavour and pure in quality, and, as such, infinitely preferable to some of the mysteriously-concocted beverages we import.—*Argus*.

Mr. CALDWELL said he had read the Prize Essays, and found them to contain a great deal of very useful information. Mr. O'SHEANASSY, in alluding to the remarks made by an honorable member, stated that although he could not pretend to be so skilled in the culture of the Vine as the honorable member for Ararat, he might say that he had read the treatise in question, and had found it to contain much useful information, and likely to be a most valuable assistant to any person who designed to become a vinegrower.—*Debate in Assembly*.

You will be doing the public service by calling attention to the fact, that the Essays of Belperroud and Pettavel may be obtained at most of the Melbourne booksellers for 2s. or 3s. Guided by either of these works, any person can make Wine. Mr. Pettavel's is most in accordance with my views.—*BERRARAO, in Argus*.

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It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

FARMING AGREEMENT. (Enquirer).—A very good Form of Agreement may be found in the *Farmers' Magazine*, for 1856, and is no doubt the one you allude to. Our publisher could get it for you, or any other book you may require.

PRIZES FOR SHEEP. (Exhibitor).—Yes. We think Geelong is a more suitable place for the exhibition of Sheep than Melbourne, because it would save a considerable distance to Western District Exhibitors, while it would be no great tax on exhibitors from the neighbourhood of Melbourne. But these things must be regulated by the spirit and enterprise of the respective Societies. If looked up, the matter might end as you suggest; we would do what we could towards it.

SILK WORMS. (B., the Grange).—We do not think you can get any of the new variety here yet. In the meantime we advise you to plant the White Mulberry and the *Ailanthus glandulosa*.

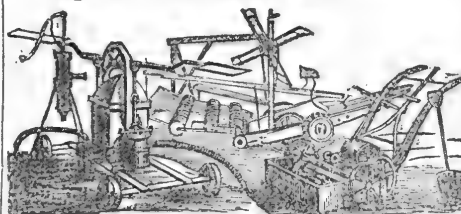
PLOUGHING. (F. B., Barrabool).—The Steam Plough has not been heard of yet, and whether they will ever get it is a mystery. The objection taken to the common plough is, that it does not invert the furrow slice, while rotary cultivators do. We do not think so. It will be high time to raise objections to the plough when the rotary implement does work of a superior quality.

HEDGES versus FENCES.

THE naked appearance of the greater number of our colonial farms, is a constantly recurring theme of discussion among those who delight to see utility and beauty combined in every industrial pursuit to which men devote their attention; and there is not a branch of industry in which these two essentials might be more profitably combined than in that of agriculture. There is not a country where less attention has been bestowed on the ornamentation of agricultural fields than this favoured colony of ours, while the facilities afforded its agriculturists to indulge their taste in that line, are quite as abundant as the desire to avail themselves of them is small and insignificant.

Ride where one will, through the very richest or poorest of our agricultural districts, there is nothing to be seen, scarcely, but stone walls and post and rail fences, inclosing the cultivated grounds. True, the traveller is occasionally charmed with a change of scene by coming upon a rough and formidable log fence, or on the more peculiarly ugly method of inclosing land, known among the Dungaree and Cockatoo settlers of old, as a dog-leg fence. The fragrance of the hawthorne, the sombre green lines of its hedge, the chirping of the birds that nestle in its bosom, or the shelter of its branches to the beasts of the field, are alike unknown and despised in our rural districts. So far as being obstacles to the encroachments of large animals, stone walls and bare fences are very well in their way,

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but the former harbour immense numbers of rats and mice, and do not last for ever without attention and repair, besides being very expensive in their first cost. If they can be supposed to possess any beauty at all, it must be limited to the straightness and regularity of their lines alone. Wooden fences, on the other hand, afford no shelter from wind or fire, and are constantly requiring repair; they are not very enduring, and, except in a few cases, are so constructed that dogs, sheep, and pigs find their way readily through them. The same objections apply to wire fences generally.

Hedges, on the other hand, if properly planted, trimmed, and pruned, are less expensive after being once formed, will last much longer, and are much more useful and beautiful than fences; and except for durability they are much superior to stone walls. They repel the attempts of cattle to invade the fields; they shelter the animals and the crops; they encourage and promote the breeding of numberless little birds, that destroy enormous quantities of insect life, so destructive to many of our vegetables and plants; they are a decided ornament to the field; and their perfume in Spring is a charm and delight to all who approach them.

The plants which are chiefly used at home for Hedges, are the Hawthorn, the Holly, and the Furze. There the Holly, though extremely beautiful, is too expensive for inclosing large fields, and it would not suit our purpose here. The Furze makes good sheltering hedges, strong enough to keep sheep and pigs from breaking into other fields, but it is doubtful if it would resist the attempts of cattle; besides this, the seeds are easily scattered abroad by the bursting of the pods, and it becomes difficult to keep the cultivated land clear of young plants. Where sheep-farming is carried on in connection with the ordinary husbandry, Furze hedges might suit the purpose of dividing the fields very well, but they are also liable to take fire and burn, a very great objection in a country where extensive conflagrations of the natural grasses are periodically occurring. The Hawthorn is the only plant used at home for hedgerows, that appears suited for the same purpose here; but from the length of time it takes to arrive at that maturity, necessary to make it a good

cattle proof hedge, and from the expense required to protect the young plants during the first seven or eight years of their growth, it cannot be recommended to our agriculturists generally; it can only be the wealthy proprietors of land that may attempt to form Hawthorn hedges: besides this, it does not thrive well in many situations.

Fortunately, however, the colony possesses several varieties of Acacias, that are in every respect equal, and in many, superior to the Thorn for hedges; among these the chief are, the Pseudo Acacia, or American Locust Tree, a deciduous plant growing to the proportions of a small tree if left uncut; the Acacia Aramata, and the Acacia Cicacia, evergreens; also the prickly plant known as the Kangaroo Acacia, a native of Adelaide, also an evergreen; and other varieties of recent introduction from South Australia and Queensland.

These plants are not all provided with thorns or prickles of equal strength to that of the Hawthorn; but one or two of them if judiciously planted and cut, will in three years, or at most in four, present a barrier strong enough to repulse the attempts of the strongest ox, or pig, to force its way through. They will last for a great number of years, almost if not quite as long as the Thorn, provided they are kept well pruned; they exhale as sweet a perfume; their gorgeous sheets of golden blossoms tint the landscape with more dazzling hues; they afford equal shelter and protection to cattle, crops, and small birds; they are proof against fire and check its progress; they will grow well on any soil almost; their seeds do not vegetate readily; they require no repair, and very little attention after they are formed; they need but little protection from the nibbling of cattle; and they are the cheapest of all kinds of inclosures.

The best method of planting them is by sowing the seed,—previously scalded, and left in the hot water for twelve hours, so as to soften it, and promote its immediate vegetation,—on a narrow strip of land, say twenty-four inches wide, and dug twelve inches deep or more, along the boundary line, in two rows a foot apart. The seed may be sown tolerably thick, but not too deep, so that as the plants grow up they

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may be thinned out to about twelve inches between each plant; but not leaving the plants in either row opposite each other. One pound of the seed which can be procured for from fifteen to twenty shillings, will thus sow nearly one mile of a hedge-row; and the expense of preparing the strip of land and sowing the seed will be equal to something like eightpence a rod; so that under any circumstances the whole cost will not exceed one shilling per rod of sixteen and a half feet. The expense of pruning for the first three years will not certainly average more than another shilling per rod per annum; so that at the end of the fourth year, the farmer will have an impenetrable and beautiful barrier formed round his land, at an expense of at the utmost five shillings per rod; a price at which no Thorn hedge could be grown, nor any equally strong barrier erected. The Acacia may be propagated by cuttings set in a warm place; and it might be preferred by many to plant out the hedgerows, as is done with the Thorn quicks; but while the seed is so easily obtained, it will be advisable to use it.

This plan of sowing the Acacia for hedges is more particularly directed to the attention of those persons whose fences are now becoming the worse for wear. While they stand and can afford that little protection from damage which the prickly Acacia requires, its seeds should be planted, so that in a few years the fence may be dispensed with entirely. Prudence would dictate that these hedge-rows should not be sown on open land much exposed to the depredations of cattle or sheep, but where these animals rarely pasture, the seed may be safely sown; and wherever a new field is inclosed with a fence, there at once should the Acacia be planted. For those who wish to improve new land, there is no other resource than a wall or a fence at first; but no time should be lost in planting the future bulwark of plants, of whose airy foliage and sweet golden blossoms even amid the sterility of an African desert, the poet has written—

"Our rocks are rough; but smiling there
Th' Acacia waves her yellow hair,
Lonely and sweet, nor lov'd the less,
For slow'ring in the wilderness."

Of the best kind of these plants for the purpose of hedge-making, the Pseudo Acacia, the Kangaroo Island Acacia, and

the *Acacia Armata*, are the three chief; but from the difficulty of obtaining the seed of the first, which entails the use of cuttings, the two last may be pronounced the best and most economical.

MEETING THE EMERGENCY.

THERE are two expressions of late much in vogue. One of these is made use of by many of our Agriculturists who speak from out the depths of their experience: It is that "Farming does *not* pay." The other expression, only uttered by ignoramuses, is "that Farming will *never* pay. To these we desire to add a third, which is, that "Farming *must* pay." And we hope that every sound-hearted tiller of the soil goes with us in expressing this determination. There has been too much theorising, too much speculating, too much procrastination, dilly-dallying, and waiting for this that and t'other thing to turn up. We have been incessantly appealing to Hercules for help when we should have been helping ourselves. If farming *won't* pay, what is to be the upshot? The land that will not give a return for the labour bestowed on it, is not fit for the habitation of man or beast, and we may as well go dwell on the asphalte shores of the Dead Sea as here, if such be the case. Agriculture and tillage has paid since the days of the creation, in Europe, Asia, Africa, and America. Wherefore not in Australia? The science of Agriculture is ever progressing. Why? Simply because it *pays*. If it did not, would one-half the capital of the world be employed on it. Ceres was the richest goddess in the Heathen Mythology.

NOW do not let us blink the subject. Let us go directly into it pith and marrow. Let our friends go with us and see what heart, energy, and determination, combined with a searching enquiry, may accomplish. We will not, just now, fall into learned discussions about rotation of Crops, stall feeding, the excellencies of this or that plough, crusher or harrow; nor the best method to trench or sow, or stack or thatch; but we will begin at the beginning, and speak out our opinions and experience, in plain home-spun words. There has of late been such wonderful crops of fine writing upon farmers and farming, that by way of change we intend to cultivate, as a fallow, a little of that article which is looked upon, we are sorry to say, by many, as almost worthless, but which we have found to be of great value in our time. It is—*common sense*.

We are sorry having to confess that hitherto farming as a rule has not paid in Victoria. We do not believe it has arisen from want of skill, industry, or capital. We believe non

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Vegetable Marrows, Herbs, &c.

FLOWER SEEDS

Annuals, Biennials, and Perennials, in great variety.

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GRAIN Purchased or Stored, and Advances made a
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FLAT ISLAND GUANO, £5 15s. per Ton in Geelong, bags
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GUANO!

G E N U I N E P E R U V I A N. Sole Agents
in Geelong—

SWANSTON, WILLIS & STEPHEN.

success is to be attributed to causes which we have not been sufficiently diligent to trace out. It is to this enquiry we now propose to address ourselves, we trust with beneficial results. We take it that the first great question in every business undertaking is, or should be—*profit*.

If a miller buys fifty bags of Wheat, and after grinding it into flour, sells it for less than the wheat cost him, it is only a question of time and capital, how long he will be able to keep his mill going. If a farmer pays more for his labor than what that labor produces him, he will stand in precisely the same position as must happen any one else conducting his operations on such principles. Now any farmer knows by bitter experience, that he has been—that *he is now* paying more for wages than the return for such wages is paying him back. All admit this; all exclaim over it. Insolvent agriculturists attribute their ruin to it, yet none have attempted to devise a remedy.

Labour is not *scarce*, it is *artificially dear*.

In proof of this, only let the farmer give what is asked, and he never wants any number of hands at his call.

It is not the agricultural labourers who combine to keep up a rate of wages known to no other country in the world. There is a combination formed for them without their consent, and even without their knowledge. It is the employers who assist in maintaining the standard. Instead of co-operating to regulate the scale of wages, they compete the one against the other to raise it. We do not say they do so upon any established or pre-arranged system, but it is quite as effectual when they tacitly and uncomplainingly submit to a third party, and that a interested party, to make terms for them. Upon what rule-of-three principle of reasoning we ask, do farmers feel themselves compelled to pay forty and fifty pounds a year for worthless, drunken, insolent, skulking, dishonest men, a large proportion of whom in the home counties have either been road tramps, hedge sculkers, or at the best manure boys, or vendors of obscene songs and prints, in the rural districts.

We will stand in the place of the farmers and answer for them. The reason is, that they have permitted a number of ignorant proprietors and agents of Registry offices to regulate the rate of wages to be paid. Let us show this in a line. Did any of our farming friends ever get a reply like the following, when they have offered good round pay to men applying for work at their homesteads:—"Oh, that won't do for me, I can get double that at the Registry Office;" and off he tramps to one of these places, where, as they are at present constituted, extortion is encouraged and

vagrants with half-a-crown are engaged without distinction, at the same exorbitant rates as those who may, by chance, be competent to undertake what they engage to perform.

Agriculturists must set to work to abolish at once, and for good, the curse of this system. Let the various Agricultural Societies, together with all employers of field labour, meet and arrange such a scale of wages as they *can afford to pay*. Let them notify this. Let them establish labour depots in the towns and centres of population *supported by themselves*. Let them pledge themselves only to engage servants at these appointed places, or at their own homesteads, at the rate fixed by a majority. Let them insist on such terms of service as shall include harvest time during the Summer six months hiring, and ploughing and sowing, during the Winter period. Men must be prevented from allowing their engagements as heretofore, to terminate immediately before harvest time and seed time commence. It is now imperative that employers should have their "*say*," and now is the period for action. The heaviest portion of the ploughing and sowing season is past. Harvest is too remote for men to hold out waiting for it. Let employers seize the opportunity—combine, co-operate, and with earnest will and one mind, determine to crush a system that is plunging the country and themselves into utter ruin.

The thing we are sure may be accomplished if rightly gone about. In our next we purpose to discuss a topic of almost equal importance to the present. We end with a sentence allied to that we commenced with. If farming does not pay, *it must be made to pay*.

SEASONABLE HINTS.

Pruning.—The system of Summer Pruning, that is, regulating the growth of the young wood in fruit-bearing trees, so as to equalise and properly balance, as it were, the different portions of the tree, has become so general amongst gardeners and amateur fruit growers, that winter pruning is by no means the formidable operation it was some score or so of years since. There is nevertheless an amount of attention necessary to give to winter pruning, and we desire to call the attention of our friends to it now. The clear sighted and sagacious John Evelyn, writing in 1669, says "that the ancients found such benefits from pruning," that "they feigned a goddess presided over it." And he says also, that "a skilful pruner should be early at his work." "All ages by rules and experience, do consent to a pruning and lopping of trees. Yet have not any, that I know, described unto us, except in dark and general words, what are these superfluous boughs which we must take away." Now we are not in our day quite so badly off as, by the last paragraph, good old

Flowering Bulbs and Tubers.

THOMAS LANG & CO.,
NURSERYMEN, SEEDSMEN, AND FLORISTS,
BALLAARAT.

HAVE just published a List of Flowering Bulbs, which they believe is the most complete that has been published in this part of the world. It may be had on application.

DIANTHUS HEDDEWIGGII.

This very beautiful herbaceous plant was brought to England two years ago from Japan, and was introduced to this country during the past season, by Dr. Kenworthy, F.R.S.V., President of the Ballarat Horticultural Society. The whole stock of Seeds and Plants has been by him placed in our hands.

This is undoubtedly one of the most showy and beautiful Plants ever introduced. It commands the admiration of all by the brilliant and varied colours of its flowers, which are fully three inches across. Its habit is elegant and it flowers profusely, and is quite hardy and easily grown.

Seeds, 1s. per packet, should be sown during winter, and will produce flowers during next summer. Plants, 1s. 6d. each, or 12s. per dozen, will flower sooner, and produce stronger clusters.

THOMAS LANG & Co., invite inspection of their valuable stock of Fruit Trees, Shrubs, Evergreens, Coniferous Plants, Greenhouse Plants, &c.

N.B.—Thorn Quicks for Fences; also, the Prickly Osage Orange, so famous in America as a hedge plant. It grows so strong that a bullock cannot break it down, and so close that a cat cannot pass through it.

Seed Wheat.

FOR SALE, 350 Bushels of White Velvet Seed Wheat.—Apply to

ALFRED DOUGLASS & CO.

Victoria Terrace, April 15, 1860.

Ploughs. Ploughs. Ploughs.

THE undersigned are now landing Messrs. Gray and Co.'s celebrated best Light Two-horse Prize Ploughs, steel mould boards, extra mountings, coulters, &c., complete.

HOLMES, WHITE & CO.,

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Harrows. Harrows.

THE undersigned are now landing, ex "Morning Light" and "Florine," from Glasgow, Messrs. Gray and Co.'s celebrated Zigzag Angled Iron Harrows, two and three in a set.

HOLMES, WHITE & CO.,

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PARKER & MACORD,

Tent and Tarpaulin Manufacturers,
AND DEALERS IN TENT MATERIALS,
PURITERS, CONFECTIONERS, AND SEEDSMEN,
PALL MALL, SANDHURST.



Boots for Stations.

THE Undersigned begs to inform Farmers and Settlers of the Western District, that he has constantly on hand, and for sale, a large shipment of both Colonial and English made Boots, guaranteed of the best material and workmanship, at moderate prices. Parcels made up strictly to order, and punctually forwarded.

SAMUEL HIGGOTT,

MANUFACTURER AND IMPORTER OF BOOTS,
60, Moorabool-street, Market-square, and 16, Malop-street east, Geelong; and Main Road, Ballarat.

JOHN EDEN,

Land Agent, Surveyor and Valuator, &c.,
24, RYRIE-STREET EAST, GEELONG.

HAS Farms to LET and SELL, from 40 to 500 Acres, on very moderate terms.

N.B.—Conveyances and Leases effected; also, sums of money to lend on real property, from £100 to £1000.

John Evelyn seems to have been, because we have learned that a free circulation of air and light must be secured to the centre of the head of a tree, as well as to the outside; and we "open up" the centre by removing "superfluous boughs," i.e. those which are growing centrewards, and crowding on those more evenly and equally distributed. The reason for early Autumn Pruning being advocated is, that when superfluous branches and shoots are removed, the whole of the sap accumulated during the winter season is devoted to the development of the buds which are considered necessary, provided that the tree is not of a too luxuriant and plethoric growth. However sound and correct the general rules for Pruning may be, as there is no rule without exception, so in this case, much must be left to the discretion of the operator, and he must necessarily observe the growth and state of health of any tree he has to prune. There are however general rules that must be observed, and they are these, that many of our fruit trees, such as Apricots, Peaches, Vines, &c., bear their fruit on wood produced the previous year. While Apples, Pears, Cherries, and Plums produce fruit on spurs of old wood; so that in the former case young wood must be left, and some of the old wood removed to encourage the growth of young wood down to the stem; and in the latter case, when a tree has assumed a permanent shape and size, most of the young wood may be cut back close, except where it is wanted to fill up a gap, or rather to supply branches where wanting. Where there is no young wood for this latter purpose, a graft or bud should be put in at the proper season. The subject of Pruning is one that would occupy too much space for our limits if gone fully into, so that we must close this hint, by reminding our amateur readers, that they are generally too chary of pruning hard, and the consequence is, that we frequently see trees and bushes more like exaggerated brooms than what they ought to be. Prune so that abundance of air and light can circulate freely amongst the leaves and branches, and the yield of fruit will be larger and better.

Sowing Seed.—The season for seed sowing will soon be here, and as we have frequently seen good sound seed fail, not only to produce a crop, but to germinate when sown by some one unacquainted, as many so called jobbing gardeners are, with correct principles of seed sowing. We call attention to the matter in our hints. Presuming the seed to be good and perfect, there are two points in connection with its sowing which are important to the success and vigour of germination, and the regularity and luxuriance of the crop. These are the proper condition of the soil, and the regular and uniform depth at which the seeds are to be deposited. If some be sown deeper than others, they will not germinate at the same time, and if too deep will not germinate at all. The pressure of air, moisture, and a certain degree of warmth, is essential to germination, and in the absence of these, the changing or germinating process will not go on. The soil is the medium by means of which these necessary elements in germination are supplied to seeds, and unless it be in a proper condition it cannot supply these; for if too dry it will contain too much air, and too little moisture to be favourable to germination. The proper condition of the soil then to receive the seed is

when it is in a kind of medium state, neither wet nor dry,—it has the appearance of having been watered, and is easily crumbled to pieces by the hand without its particles adhering together. The soil receives its heat through the medium of air, consequently the surface soil is more quickly heated than that deeper down. Whenever the air is warmer than the soil, that will be warmer near the surface than deeper down; when on the other hand the air is cooler, the surface of the soil will by contact cool much more rapidly than below the surface, and as warmth is essential to the germination or starting into growth of seed, it follows that the most rapid germination will occur at about an inch or an inch and a half below the surface, to which depth the heat will soon penetrate, and which nevertheless will not be so rapidly cooled during the night. On this account seeds at this level will generally grow most rapidly, and the germination of others will occupy more time, as the distance between them and the surface is increased. Keeping these facts in view then, the amateur will find that failure in seed growing need not be of so frequent occurrence as it is. Of course in this hot country some difference must be made between sowing in winter, and spring, and in summer; and we are here referring to the former period. A few of each of the following seeds may be sown at intervals for the next month or two:—Cauliflower, Cabbage, Lettuce, Raddish, Onion, Broad Beans, Peas, and Short-horn Carrot. A few Potatoes may also be planted where they will be sheltered from the frost when up.

Crossing of Flowers.—In artificial crossing, the sorts to be crossed must be in perfection of bloom at the same period. The pistil of the one must be ready to receive the pollen or farina of the other, just as the pollen or farina is ready to perform its work. The pistil and farina are, in most plants, provided in the same flower—the pistil leading to, or forming part of, the seed vessel, and the farina being provided in the anthers, which, when ripe, burst and show the farina in coloured dust, which, if left to itself, will attach itself to its own pistil, and actually grow there; for each grain of dust that performs its office strikes down a thread so fine as to be imperceptible, even if it could be exposed—and this thread actually reaches the seed, which thereby receives its vitality. Now the cross impregnation, by artificial means, is to take away the anthers, which contain the pollen, from the flower to be impregnated, to prevent its performing that office itself, and to take from the flower of the sort we wish to cross with the pollen, the instant it bursts, and to apply it to the pistil of the flower we have prepared to receive it. If this be properly done, when both parts are in a proper state, there is no doubt of the result.

The Fuchsia.

This, one of the most admired of the many triumphs which the persevering Florist has been able to exhibit of his skill and observation, has not been exhibited at any of the Shows we have seen in the Colony in anything like that perfect state of health and cultivation, as regards the plants, to which it is entitled; and we purpose saying a few words with regard to its culture to secure better things for the future. In our opinion Fuchsias



WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

Acts of the Imperial Parliament.

COMPANIES' Clauses Consolidation Act.
Waterworks' Consolidation Act.
Gas Works' Consolidation Act.
Railways' Consolidation Act.

HEATH & CORDELL.

Wheat and Oats.

THE Undersigned are prepared to receive Grain on Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.

TUESDAY, 18th JUNE, at Twelve o'Clock,
In the Rooms.

CATTLE STATION,

KNOWN AS

SOUTH STONY RISES,

Lately in the occupation of JOHN TROTTER, Esq.,

CONTAINING—

42,800 ACRES, (More or Less.)

WITH

400 Head of Cattle.

OGILVIE & ROBINSON

Are favored with instructions to sell by public auction, in the Rooms, on the above day,

THE SOUTH STONY RISES STATION, situate in the Portland Bay District, distant from Camperdown about 16 miles, and from Colac about 23 miles, with an area of about

42,800 ACRES,

Nearly all fenced in, and bounded on the south by the coast, from which it is distant about 17 miles.

THE CATTLE

Consist of about 400 HEAD, including a pure bred Durham Bull, all under 4 years old, the larger portion being 3 years,—about two-thirds STEERS, and one-third COWS and HEIFERS.

The improvements consist of 500 Acre Paddock, fenced in with substantial posts and rails, a stone wall on the boundary with Mr. Roadknight, and posts and rails adjoining the stations of the late Mr. Milner and Mr. Allan; a comfortable five-roomed House, with Dairy adjoining, all necessary huts, stock-yards, slaughter-yards, cow-houses, piggeries, &c.

There is also a good yard of one acre fenced in with stone wall, in addition to which there is a never failing spring close to the house.

South Stony Rises is bounded on the south by the station of Mr. Roadknight, on the east by that of Mr. Milner's, on the west by Mr. Allen's.

The run is well watered with marshes and springs.

Further particulars may be obtained from Hugh M'Phelimy, Esq., Malop-street, or of the Auctioneers.

Terms Cash.

Possession can be given immediately after the sale.

1,100 Well-bred Sheep.

FOR SALE BY PRIVATE CONTRACT.

OGILVIE & ROBINSON

Have been instructed by James Riley, Esq., to sell by private contract,

1,100 WELL-BRED SHEEP, now running at Meltham, Pollock's Ford.

For Sale early in August.

Rams. Rams. Rams.
At Glenorchy.

OGILVIE & ROBINSON

Will sell by public auction, early in August, at Glenorchy,
500 RAMS, bred by Messrs. Willis and Swanston, Morrey, Harrow.

are generally grown too fast and exhibited at too early a period of their growth. We prefer the pyramidal form of culture, and begin by putting in cuttings early in Spring. Small pieces of young wood, about five or six inches long, we pot these cuttings in some very light mould with a good deal of silver sand in it, and keep them rather close for a few days till they begin to show signs of striking; a very little bottom heat may be given at this time, but never after—they will strike very well without it though not so fast. As soon as they have struck they should be removed to the open air and hardened off. In about a week or so after, they should be potted into small six or three inch pots, in a compost composed of one part turfy loam, one part leafy mould, and one part sand, well rotted cow-dung, and some pieces of charcoal about the size of a bean. Here they may be carefully attended with water, being frequently syringed all over to keep the plants clean and healthy. As soon as these small pots are filled with roots, the plants should be shifted into forty-eights or six-inch pots in the same kind of mould, and may be shaded from the sun for a few days thereafter, till they have got over the shift. In the first instance they will have been placed in a spot not too much exposed, nor sheltered so as to draw the plants by shade. The plants should now be carefully tied up, never stopping the leader until it has reached a height of three or four feet, according to taste. As lateral branches make their appearance up the main stem, they will require to be regulated in their growth by stopping the overluxuriant shoots so as to equalise the the growth, and the plants should be frequently turned round, that one side may have the same advantages as to light, &c., as the other. There will be more branches produced than ought to be retained, and when they have grown enough to show the direction they will take, those that are not wanted should be taken clean off, but such as grow outwards in all directions must be kept, that the plant may form a cone or pyramid. In five weeks or a month from the last shift they will if of the stronger growing kinds require shifting again into twenty-fours, or eight inch pots, and allowed to remain where they are to flower, or if required to make very large specimens, they may be shifted again, and kept on growing by picking off all the flowers and encouraging them in every way.

As the mould recommended to be used is of a rather rich character, plenty of drainage must be used at each shift, as these, like other things, do not like stagnant water, though they like water in sufficient quantity. The plants, when in full flower, may be removed to the green-house or window, but they will require abundance of air and light, or they will drop their flowers and leaves; and from being a perfect cone of green, healthy leaves and brilliant flowers, they will become like worn-out brooms, with a flower here and there, gradually dwindling down to a mere shadow of its former self. When in full flower, they may have a little weak manure water given them now and then. We venture to say that if these directions be followed, the result will prove satisfactory. When the plants are done flowering, they should gradually be dried off to remain the winter almost without water, and to ripen the branches. When the wood is perfectly ripe, the plant may be pruned well

in, and any branch pressing too close on the others should be cut clean out. They may then be placed in some dry place, the pots being laid on their side until wanted to start into growth again the following spring. This system of pruning and resting will suit any style of plant,—short or tall, bushy, thick, or conical, or it is as easy to train up standards as to any other form. To do this, all branches up the main stem should be cut clean out, and leave a few at the top to be cut back to within six inches of the stem. In the following spring when the plants begin to grow, they should be shaken out of their old pots, the roots slightly pruned in, and potted again in pots of a less size, and be gradually shifted again during the growing season as in the previous year. All unnecessary young shoots should be rubbed off, and it should be borne in mind that if left too thick the leaves will drop off, and the plants become bare stems, as we often see them. If any green fly appears on the leaves during the growing season, they should be removed by fumigation, or by syringing with tobacco water. Fuchsias are favourites of the red spider, and care must therefore be taken to keep them well syringed in dry weather. Plants may be grown on from year to year, either pruned in and kept at the same size, or increased in growth as long as it may be wished.

Good judges lay down the following properties for the guidance of the Florist:—"The bud of the flower before opening should be globular. The inside of the sepals is always of a more beautiful texture than the outside; therefore they should reflex so as to exhibit the inside surface only, the petals turning back like the petals of a Martagon Lily. The texture of the petals should be rich and smooth, not coarse and veiny. The corolla should have a rich velvety surface, and should be well exposed below it. If there be any more tube than the petals will cover when reflexed, it should be as bright as the flower, shining like wax, and not more than half as long as the diameter of the globe."

With regard to color, the sepals and corolla should be different, and the stronger the contrast the better. They ought to be not merely different shades but different colours; black and white, red and purple, white and purple, white and blue, and white and scarlet.

The plant should be short jointed; the foliage small and bright; the stems thin and elegant; the habit bushy and pyramidal; the flowers profuse at all the axils of the leaves; and the foot stalks long and elastic.

Trees for Street Planting.

The residents in Geelong will learn with considerable gratification that the Newtown and Chilwell Municipality, on the motion of Mr. Stitt Jenkins, seconded by Mr. William Blair, with a view to ornament the Town, which, in times gone by, has been so completely denuded of trees, has requested the Government Botanist, the Corporation of Adelaide, and Mr. Bunce, of the Geelong Gardens, to furnish the result of their experiments on the planting of indigenous and other trees. The former gentleman has promptly furnished the information required, and Mr. Bunce has signified his intention of reading a paper on the subject at the next monthly meeting of the Horticultural Improvement

Association, to be subsequently submitted to the Municipality.—[ED. GAZETTE.]

Melbourne Botanical and Zoological Garden, 12th May, 1861.

Sir,—I have the honor to acknowledge the receipt of your letter, dated 10th May, conveying to me a resolution of the Newtown and Chilwell Municipality, to furnish results of my experiments in planting trees for useful and ornamental purposes.

In compliance with this request I beg to submit to you some notes on the respective value of those trees which are more particularly recommendable for lining public roads and streets on an extensive scale, referring you for information on plants otherwise desirable for general distribution over the colony, to an article which I furnished to the transactions of the Victorian Institute in the year 1857.*

Defining, therefore, my observations to trees suitable for lining roads or streets in this country, it becomes of primary importance to decide whether evergreen or deciduous trees should receive preference for this purpose. For although in general the superiority of the latter when in full foliage cannot be questioned, it is still to be borne in mind that in the winterless zone of Australia, long and uninterrupted lines of defoliated trees do not contrast favorably with the beautiful verdure of our country during the cooler season. But since in the planting of trees along streets it can be less objectionable to select deciduous trees, than choosing them for lawns, parks, &c., as predominant trees, I shall enumerate all the principal species which have claims on our attention, and shall endeavour to point out briefly their respective merits.

The British Elm ranks foremost amongst deciduous trees, as regard hardiness, beauty, and celerity of growth. Its foliage withstands the exposure to hot winds better than that of most other trees with deciduous leaves. The elm will readily bear transmission to distant parts of the country when in a dormant state, and may be moved to the final places of their destination when it has attained already considerable size and strength. Being readily multiplied by cuttings, it may be obtained at the various nurseries in unlimited quantity, and at an extremely low price. The tree is content with poor soil, enduring considerable exposure, although its luxuriance increases with the fertility of soil, and under the benefit of shelter against heavy winds.

The Plane (*Platanus*) is one of the most delightful amongst deciduous trees, both the Oriental and American Plane having respective merits. By the rigidity of their broad and beautiful leaves, they possess a still greater power to resist the effects of the hot winds than the elm. The plane is one of the most favorite trees cultivated for show in Middle and in South Europe. As yet, however, this valuable tree is not available in large quantities in Australia, and our supplies are chiefly drawn from New South Wales.

The British Oak is amongst the most easily cultivated and rapidly growing trees with shedding leaves. Whilst in verdure during the spring and summer nothing can surpass its beauty; but in some varieties, the leaves drop tardily in autumn and winter, the dead foliage imparting by no means a cheerful appearance to the tree at that season.

The Black or Spreading Poplar is well adapted for lining our roads and streets; its firm leaves endure a considerable degree of drought. The Poplar is multiplied and transplanted with the same ease as the elm, and purchasable at a very moderate price.

The British Ash may also with great advantage be grown along roadsides, being hardy, and of comparatively quick growth.

The Maple is recommendable for its beautiful foliage, and is easy of culture, and readily transplanted. But its rather tender leaves suffer under the influence of hot winds.

To the Lime, the same remarks are applicable as to the Ash. If, however, the localities are sheltered, and the soil good, this tree, as well as the horse-chestnut, the Spanish chestnut, and the walnut tree, become highly eligible for lining our walks.

The Chinese and American Gleditschias are characterised by very spreading ramifications, and are thus remarkably adapted for overshadowing walks. The appearance of the trees is extremely handsome, and in favorable localities they attain finally a height from 60 to 80 feet. Their long thorns defend the trees well when once grown to size.

The White Cedar (*Melia Azedarach*) retains its deciduous foliage till late in the autumn, a quality which gives to this fine tree advantages over many others. Its branches are very spreading, but as the tree does not attain a very great size, although by no means diminutive, it is better suited for lining footpaths than roads. It is like the Gleditschias readily and cheaply obtainable.

The Locust Tree (*Robinia Pseudo-acacia*) has proved well adapted to our climate. Judicious pruning of this tree is needed, in order to prevent its being deformed by the fracture of its branches in wet and stormy weather.

The Japanese Powlownia is of rapid growth and remarkable and showy on account of its large leaves. The latter, however, suffer from exposure to hot winds, and the tree is easily injured in localities subject to frost.

The Ailantus recommends itself not merely on account of its truly noble appearance, but also as of great utility in affording food to a peculiar and hardy species of silkworm. It is not so rapid in growth as the elm, oak, and some other of the before mentioned trees.

The White Mulberry is one of the most easily grown and useful trees, probably fully entitled for selection in planting extensive avenues, irrespective of its great uses for rearing the silk-worm.

The Japanese Ginkgo, an excellent tree, would claim our attention were it of quicker growth. Nor is this fine plant as yet cheaply and abundantly available.

Amongst evergreen trees the Pines rank foremost, whether we regard their noble forms or the variety of species eligible for being introduced into our plantations. It would lead too far to enumerate on this occasion all the kinds which could be made available, but the Stone Pine, which produces a straight stem, a beautiful crown of foliage, and abundance of edible seeds, is deserving of especial notice. It is this tree which forms the most picturesque feature in the Italian landscape; and Cape Town is surrounded with ornamental lines of it. From analogy of the climate of its native country to ours, we may infer, that the Stone Pine is amongst the most desirable of all trees for avenues in this country.

The Cluster Pine recommends itself also by its adaptation to our climate, and by its celerity of growth, for being made subservient for lining our roads.

The Araucarias, (especially *A. Cunninghamii*, *A. Excelsa*, *A. Cookii* and *A. Bidwillii*.) become also available to some extent for our public plantations, whenever a moderate outlay to obtain these noble trees is available. The same may be said of the Decodar. The Lebanon Cedar is unfortunately as yet not plentiful in Australia. Besides numerous pines we count amongst evergreen trees many species, which combine the very umbrageous foliage which so charmingly expresses the features of many British

* On a general introduction of plants into Victoria.

trees with never fading verdure. Thus the Illawarra flame tree, the wattle trees, the Lop-hostemon, the Grevillea robusta, and several other trees might be selected for lining roadsides, although much more difficulty exists in the transport of these trees compared with the deciduous ones when dormant.

In exposed localities, where it is an object to raise within the shortest period trees for shelter, nothing becomes more adapted than the Tasmanian blue gum tree; but as its shade is imperfect, it answers well to interplant its lines with such trees as the elm or oak, which, when planted simultaneously, will advance independently of each other.

Experiments on the suitability of many other trees, including the *Siris acacia*, which is so much cultivated in India, are under progress, and the results of these trials will be duly brought to public notice whenever satisfactorily confirmed. Finally, I may state that it will afford me great pleasure to provide your municipality with such trees from my establishment as many remain, after the already extensive distribution of plants this season, available, when your preparations for planting will be completed.

Very obediently yours,

FRED. MUELLER.

To the Chairman of the Newtown and Chiswell Municipality.

Aptitude of Roses for Pot Culture in Victoria.

Per favor of Mr. W. FERGUSON, Gardener to the Hon. J. H. BROOKE, as read by him before the Melbourne Gardeners' Mutual Improvement Society.

The Rose has long been a favorite flower, not only in Britain, but throughout the British possessions, however far removed from the mother country, and there is, perhaps, none other that has ever received such unlimited attention.

The ardour manifested of late years in the cultivation of this flower has produced rapid improvements. Many varieties, which for years past have been held in high estimation, are now falling aside before the constant introduction of new varieties, which have materially widened the range of this beautiful genus, as well as improved the individual varieties of which it is composed.

It is not, however, my design at present to treat of Roses generally, but of their aptitude for pot cultivation in this colony, and this in as brief a manner as the explication of the subject will allow. At the same time, I do not pretend to instruct my professional brethren, but having been for many years a grower of this delightful class, I feel more confidence in submitting my mode of culture to my brother gardeners, and to furnish what I consider a true guide to those amateurs who may wish for more practical information than, perhaps, they have been enabled to obtain.

It appears somewhat remarkable to me, that the practice of growing Roses in pots has not been more extensively adopted amongst the lovers of this noble family, for the Rose is far easier of cultivation in this climate than in Britain, or perhaps even in the most favored districts of the south of France. All we want is an annual importation of the newer and finer varieties, and I feel convinced that Victoria can compete with the great national rose show of England.

In the course of my experience in this colony, I observe that few people have the opportunity of visiting places where good collections of Roses are grown; and, consequently, I would suggest that the Horticultural Societies of Victoria should encourage this particular branch of horticulture, by offering liberal prizes; and I feel confident that growers will spring up fit to compete with Rivers, Francis, or Paul.

A more magnificent genus of plants, or one possessing such a combination of rare qualities is scarcely to met with, nor could I name another in

which the cultivator has so wide a scope for the exercise of his skill and taste.

If a continual succession of flowers be an estimable character of plants for pot culture, the Rose has a decided claim on our attention; if variety of color—from white to scarlet, yellow or purple, with various intermediate shades, be sought for, it is found here; if scent be valued, there are several classes that establish a claim on this point also. Their foliage, too, and general appearance is elegant, and in fine, from the flexible nature of the young shoots, they admit of being fashioned into any form the fancy of the cultivator may suggest. The recent exhibitions of the Gardeners' Mutual Improvement Society, and the Horticultural Society of Victoria, is proof enough that the climate of this colony is admirably adapted for the cultivation of the finer, and especially for tender varieties, that I had the greatest difficulty in blooming well in the southern counties of England, even with the greatest care. The advantages of growing Roses in pots, especially with regard to the tender varieties, are very great, if we only take into consideration the facilities afforded for protecting them from heavy rains, hot winds, intense sunshine, &c., by means of pits and frames, covered either by glass or calico shades, or what I consider would be better than either, "Tiffany," a new substitute for glass in England, and which is much employed for the purpose I now recommend.

The hardy kinds, however, certainly need not be grown under shade of any kind, they merely require plunging in an open, yet sheltered situation of the garden, where the atmosphere is pure and well sheltered from hot winds.

The ease then with which we can remedy these disadvantages when Roses are grown in pots, must be evident to everyone, and I feel perfectly confident that they will succeed much better in this manner, if, as I said before, some slight protection is afforded from sudden changes of temperature. Amongst Roses there are two distinct kinds of plants, worked plants, comprising the budded and grafted ones, and such as are grown on their own roots. Both succeed well in pots. The former frequently produce the finest flowers, but should be grown on very short stocks; and the latter form large and handsome plants.

The Propagation of the Rose, either by budding, grafting, or by cuttings, has been so much written on, and is so generally understood, that I feel it unnecessary to enter into the details of the practice here. Suffice it to say, that the stocks which are intended for budding should be potted the previous autumn, so that they may be established in the pots before the budding season; or they may be budded in the open ground, and removed in the following season. I prefer those plants that are grown upon their own roots for pot culture, as being less liable to send up suckers than worked plants, and especially where large and handsome plants are the aim of the cultivator.

The soil in which I find the Rose to succeed best with pot culture, consists of two parts good turfy loam well chopped up, two parts rich decomposed stable manure, and one part burnt turfy soil; a few handfuls of bone dust will aid materially in giving a fine healthy foliage to the plants, as well as increasing the size of the blooms. This compost should be thrown up in a heap in autumn, and frequently turned, and occasionally a little hot lime sprinkled throughout, to destroy worms and grubs.

Early in autumn, immediately after rain, I consider the best time to remove plants from the open ground, and such as have well-ripened wood should be chosen. The pots best suited should be regulated according to the size and vigor of the plants, and these should be well drained, and plunged to the rims in coarse sand or ashes from the gas works. In plunging plants I have found it an excellent plan to place the pots so that the bottoms rest on an inverted seedpan or flowerpot. This secures a free drainage, and prevents the roots growing through

the bottom of the pot into the soil, and is an effectual barrier to the ingress of worms. After plunging, I have found it very beneficial to cover the surface lightly with short stable manure.

Water must be given abundantly through the growing and blooming season; liquid manure, such as the drainings of a manure heap or cowshed, I find to be the best suited for pot roses: a little guano-water may be occasionally employed, but it must be used very cautiously; one ounce to a gallon of water is quite sufficient, and this only once or twice a week in the growing season.

Such shoots as are inclined to grow very strong should be stopped by pinching the points of them, as they seldom flower, and they appropriate to themselves the sap which should be directed into the flowering branches, and further, render the plants of uneven growth. When the flower buds are forming imperfectly, they should be nipped out; and the size of the early flowers may be increased by removing, at an early stage, the small backward flower-buds. It will also add materially to the vigour of the plants if the surface of the soil is kept in a constantly loose state.

To select varieties to meet the concurrence of all cultivators, is, I fear, a difficult if not impracticable task; so much in flowers depends on taste, that probably no two persons, though equally well acquainted with Roses, would select the same varieties.

In selecting the kinds of Roses best suited for pot culture, I have always endeavoured to hold in view, the following points:—First, elegance of habit regarding both growth and flowering; second, contrast of color; third, abundance of bloom; fourth, form or individual outline of flower; fifth, duration of bloom; sixth, sweetness. Probably few Roses will have a claim on all these points; some combine them more intimately than others. The habit of a plant is always deserving of regard, and especially when intended to be grown in a pot. As a class of Roses, the Bourbons may perhaps be given as a standard of habit.

In a collection, contrast of color is of undoubted import. With regard to flowering, many of our most profuse blooming Roses are not always most double, nor the finest in form, but the magnificent appearance they present as pot plants when viewed *en masse*, may be considered a sufficient plea for introducing such amongst a collection.

There are various styles of Roses, each good in its way. Two points, however, the habit of the plant and the form of the flower, should admit of universal application.

By duration of bloom, I allude more particularly to the length of time the flowers continue in full perfection when open, than to succession of flower; for example, Queen Victoria, Paul's, Hybrid perpetual, and Smithii, Yellow Noisette, and in fact most thick-petalled Roses, hold their flowers in perfection for some days; whereas others fall almost as soon as expanded.

Now, to obtain a number of flowers on one plant, in all the various stages of bloom, at a given time, is one great point that the cultivator of Roses in pots, for exhibition, has to attend to. Therefore both among summer and autumn Roses, such as are for some time in perfection as buds, and when expanded for some time as flowers, are certainly the most desirable.

Scent, which is an estimable property of a Rose, needs no comment.

I consider it superfluous to give a detailed list of the best varieties for pot culture; many new and fine varieties are being annually introduced, and, no doubt, many amongst them will be found equal to the older and more commonly known good varieties.

I will confine my remarks then to classes, as every rose grower has his particular favourite amongst varieties.

The classes of Roses that I can practically recommend for pot culture, and which I feel confident will meet the approbation of all Rose cultivators, are

the following:—Hybrid Perpetual, Noisette, Bourbon, Hybrids of the Chinese and Bourbon, Provence, Gallica, Tea-scented, Alba, and Moss.

Hybrid Perpetual—These roses are universal favourites, and deservedly so; their foliage is grand, and the flowers of some kinds are exquisitely shaped. The rapid influx of new varieties has increased and improved this class surprisingly within the last few years.

Noisette—This class deserves special commendation, on account of blooming finely so late in the season. Their large trusses of bloom have a fine effect; in fact, they form a very valuable class.

Bourbon—This class is noted for elegance; it has been extended greatly of late years, by the introduction of many purple, crimson, and blush varieties. The colors of the Bourbons are very clear; the petals smooth, thick, and large, and generally well-formed.

Hybrid of the Chinese and Bourbon—Many of this class are profuse bloomers, and some perfect models in form. The hybrid Bourbons are remarkable for their robust habit, and bold foliage; most of them form fine pyramid roses in pots.

Provence—This is an excellent class of roses for pot cultures, the whole of them are very sweet, and their pendulous growth gives to them a very graceful appearance; the flowers are large, well formed, and in shape mostly globular.

Gallica—These are first class roses as show flowers, being of compact growth, particular regularity of petal, and fine outline. There is also a great variety and richness of color among them, and they are for the most part very fragrant.

Tea-Scented—These are, in fact, but a selection from the Chinese, on account of their peculiar odour, and shining foliage. They are admirably adapted for pot cultivation. They are the most tender class we have, and should have some slight protection, such as I have previously recommended, particularly during heavy rains, as I find them to suffer more from dashing rains than from a nipping frost.

Alba—It is here we find that beautiful style of rose, the edges of which are white, with pink centre, in the greatest perfection. The flowers are not of the largest dimensions, but the fine shape and elegant arrangement of the petals more than compensate for the slight deficiency in size.

Moss—There are but few varieties of Moss Roses that can be recommended for pot culture, still these few, cast amongst the many, give a great degree of distinctness to the collection, and they certainly cannot be dispensed with anywhere.

I might have entered more fully into details, but, as I said previously, it was not my intention to attempt to instruct my professional brethren, and that I should be as brief as the explication of the subject would allow. Yet, I trust that at the next show of the Gardener's Mutual Improvement Society, several of its members will show to the public of Victoria that the Rose can be grown to as great perfection in our new homes as they ever saw it at Regent's Park, Chiswick, or Sydenham.

SOME of our agriculturists may do well to consider whether it would not be worth their while to cultivate maize a little more extensively than hitherto, as in an American paper we find the following eulogium upon that product:—"Our maize is a precious plant. It gives us bread; it makes us our pork; it is toothsome for kine; it is grand for hominy; our poultry is mostly made from it; its stalks supply sugar; the syrup from it produces alcohol; the envelope of the ear dried makes a sweet and refreshing bed, and now it is found that it produces a clear burning fluid that burns with soft light without odour, without smoke, and that is inexpensive, affording a good light in an ordinary Kerosene lamp for half a cent. in an hour. The corn oil is as clear and colourless as water."

HORTICULTURAL CHEMISTRY.

PLANTS IN POTS.—LIEBIG'S PRINCIPLES.

I shall leave for the present the subject of pruning Potted Plants to the practical gardener, while I direct attention to the very important bearing which the new doctrines and discoveries of Baron Liebig possess on manuring, watering, and re-potting. In a recent *Gazette*, I gave a brief detail of the very simple and striking experiments of the great chemist, disproving the universally received opinion, that the food of plants from the soil and from manure, being dissolved in water from rain or otherwise, is drunk up in this state by what are very erroneously termed the *spongioles*, or little sponges of the root tips. On the contrary, those root tips are not in the least like sponges, having no pores, not even the most minute, but are covered with an *epidermis*, (Greek, for skin-cover) or scarf-bark, very fine, shielding the pulpy substance underneath it. There can be no doubt these root-tips are the feeding organs, but beyond the fact, that the plant's food is taken there, we know nothing,—nothing of the *how* it enters, since there are no pores to admit it.

It has long been practically known to gardeners and amateurs, that an over supply of water, is extremely injurious to potted plants; but till Liebig's experiments were published, the reason of this was never clearly understood nor satisfactorily accounted for. The experiments distinctly prove, that, so far from the food necessary to growth being taken in dissolved in water,—water actually chokes or rather drowns the root-tips and kills the plant, which does not and cannot take food till the water,—all the water be removed and drained off, while any manure it might contain is all left diffused minutely through the soil. In the case, accordingly, of water being supplied in saucers placed under plants in pots, it is clear that only the roots near the top of the soil, and farthest from the soaking water can feed, while those beneath being immersed and drowned cannot feed at all, till the water is thoroughly drained off. It is evidently for this reason, that we find the roots of potted plants so frequently striking upwards towards the surface, instead of downwards as they do in the open ground, and it is for the same cogent reason, to escape from drowning, that the root-tips run out to the sides of the pot in countless numbers, where they can be comparatively dry, even though the food there is scanty for so many feeders; and unless re-potted into fresh soil, they dwindle and die from being pot-bound and starved.

All this proves more clearly than was ever done before, the indispensable importance of the thorough and effectual drainage of the pots, either with broken pot shreds on the old system, or what is preferable, with bits of charcoal, chipt bones, or broken limestone; and when with such drainage water is supplied too profusely, the root-tips will spread multitudinously, and fill every crevice of the chipt bones, and every crack in the charcoal, in their unwearied search for a dry place to feed healthily.

Yet it is very clear that plants do take in water; but Liebig's experiments distinctly prove that it must be pure water, and not as hitherto believed, water containing, in solution, the plant food in the form of manure. One of

the most important effects of water then appears to be, the carrying the manure, which may be dissolved in it, into the soil, and diffusing it through the soil very minutely and effectively, for the plants to feed on, while the water, thus freed from the matter dissolved in it, is filtered out pure, and in this form taken into the plants.

The case of water plants seems to be very different though. I do not pretend to be able to explain their peculiar mode of feeding, and for the present must consider it inexplicable. But when water or marsh plants are potted, such as the beautiful African lily, (*Agapanthus umbellata*), water must be abundantly supplied and frequently renewed. The same must be done in the case of the Nile lily, (*Calla Ethiopica*), which grows in shallow streams at the Cape of Good Hope; though this is rarely potted in this colony, for it thrives most luxuriantly in the open ground, having, it would seem, acquired quite a new habitat in this dry climate.

J. R.

Notices of Books.

THE VINE IN AUSTRALIA.

By A. C. Kelly, M.D. Sands, Kenny & Co., Melbourne.

The issue of yet another work on the "Culture of the Vine," combined with the valuable letters and suggestions which so frequently appear in the columns of our daily and weekly contemporaries, is a strong proof of the increasing interest on this important subject; and we are pleased to see it, since we are daily becoming more and more aware of the demands which are being made for pure native Wines to supersede the use of alcoholic liquors,—a change which, as a writer in a late New Zealand paper aptly remarks, would not only effect a great change in the public morals, but be productive of health and prosperity. The author of the volume before us, has had twelve years experience as a Vine grower in Australia; has had failures and disappointments, and is therefore desirous to guide others from those errors into which he from inexperience naturally at the outset, fell. From a careful glance through its pages, we cannot, we confess, find much of this twelve years experience recorded, save that it has enabled Dr. Kelly to collect with some judgment all the authorities on the subject; to compare various localities and treatment one with another; and so a really valuable volume is made up for those who can afford to place it on their shelves, for it is out of the reach of the masses; and for their use the *Essays* of Belperroud and Pettavel, at a fifth of the price, contains the cream of everything in this costly volume. But our object is with the Book itself. In the introductory remarks, the author treats at some length of a great obstacle which has existed to the progress of vine-growing in these colonies:—

The want of merchants to take the wine off the growers' hands after the fermentation is over. Wine requires much care and attention in the cellar before it is fit for use. This involves time, labour and skill, along with ample cellar accommodation, all of which ought to be provided by the wine merchant, whose peculiar province it is to take charge of the Wine after the fermentation is completed, and prepare it for market. The last operations, the preparation for use, the bottling, &c., are the business of a third party. The Australian Vine-grower has been obliged to undertake all these duties, with

what satisfaction to himself or others any one may guess. Who can imagine a farmer, after he has grown, harvested, thrashed, and bagged his wheat, being obliged not only to grind it, but also convert it into bread before he can sell it. p. 7.

But a few enterprising men in this district have set a good example to the more monied merchants in buying up much of the produce of the Vineyards; and we shall look during the ensuing summer for good, light, wholesome beverage, at a price within the reach of rich and poor.

Chapter 2, treats on "Climate," and points out the temperature of several vine growing localities in Europe and Australia, with the mean at each place of the warmest and coldest months; and an interesting map, showing the geographical position with regard to latitude of the Australian colonies, in comparison with the wine countries of the Northern Hemisphere, from the treatise by Mr. Jevous, on the climate of Australia and New Zealand, is appended, together with numerous tables on rainfall, a matter of no little importance to Australian Vine-growers.

In Chapter 3, "Soil and Situation." Contrary to the opinion of Mr. Belperroud, "that a sandy, loamy soil, on a stratum of clay is undesirable, as it produces a small crop of grapes, of too inferior a quality to make good wine," Mr. Kelly has seen such soil in some situations experimented on, and by a system of drainage, rendered not only fit for vine culture, but to produce wine of excellent character.

On a subject which deserves much attention, he remarks:—

The retention of water, which is so necessary in ordinary agricultural operations, becomes of infinite importance in gardens and vineyards, where the exhaustion of moisture by the rank vegetation of summer is excessive. There the ordinary rain fall on the surface is quite inadequate to restore the moisture of which it has been deprived; it is therefore necessary to obtain some extraneous supply, and this can be got most readily by conducting into the garden or vineyard, any stray streamlets in its neighbourhood which would otherwise go to waste. Water-courses, on an adjoining road, or rills, which run off on a neighbouring paddock, if conducted into the gardens to trenches dug in the dry exhausted beds will soon restore their fertility. The effect of inundating ground thus desiccated, is quite surprising. Rich fertile gardens, which, from exhaustion of their moisture, have become utterly sterile, and in which manures of all sorts had been tried in the vain hope of renewing their fertility, have, by this process, been at once restored to their former productiveness. (p. 39.)

The same system is recommended for the Vineyard, before resorting to the expensive works and machinery required for irrigation, and the subject is treated at some length.

Most cordially do we endorse the opening remarks to the chapter on "Preparation of the Soil," that true economy forbids any niggardliness in the first expenditure, which would lead to slurring over the work. "Let everything be efficiently done, with all due regard to the saving of labour."

For many soils "hand-trenching" is absolutely necessary, but the process is so expensive, that where feasible the subsoil plough is a far less costly means of preparing the soil, and its mode of working is described; in fact all bearing out the opinions of Mr. Pettavel. (Essay p. 60.)

The chapter on "Pruning" is an interesting one, and the woodcuts accompanying it are

remarkably good; in so brief a notice we can merely give a few leading paragraphs showing the principles of Pruning.

The Vine differs from all other fruit-bearing trees in this, that the fruit and leaves are produced on the green shoots of the same year; and those shoots, before Winter, become brown and hard or lignified, and never again produces fruit. The eyes or buds on these shoots, of which one is formed in the oscilla or arm-pit of each leaf, send out the following year green shoots, which, in their turn, bear fruit and leaves; become lignified, and so on, each year in succession. This is the course of things in a state of nature when the Vine is left unpruned. (p. 64.)

From what we have already stated regarding the fructification of the Vine, the old wood can be of no further use, and ought to be entirely removed, except that portion required to form the stem and head of the Vine, or the branches to support the young fruit bearing shoots. Old branches go on, year after year, acquiring a layer of new wood under the bark, and rob the plant of much of its juice, that under other circumstances would have gone to improve the fruit-bearing powers of the plant. (p. 67.)

It ought to be borne in mind that the formation of seed, as it is the principal function performed by plants, is also the most exacting on their strength; and where from long pruning there is a too abundant crop of Grapes, these grapes have a much larger proportion of seeds to the juice than in short pruned Vines. So also in excessively dry seasons the fruit is small and yield little juice, but the seeds are always well developed; it is advisable therefore in such years, to pluck off the greater part of the fruit bunches, or perhaps the whole of them, when the nature of the season has sufficiently proclaimed its continued aridity about the time of flowering. The Vines would thus be saved the exhaustion which in such a season they must endure from the ripening of a full crop of seeds; and the sacrifice which the Vine grower makes of a poor crop of Wine is small indeed in comparison with the advantage gained in the future, by thus sparing the Vines. (p. 67.)

There is much interesting matter in the remaining chapters of the Book, which treat of "Winter Work," "Fermentation," "Preparations for Vintage," "Vintage," "Cellar," and "Varieties of Wine," but we cannot at present notice them seriatim. We can only say in conclusion, that the Work is well got up, and profusely illustrated, and will form a useful addition to the Library of the Vignerons.

HAND-BOOK OF FARM LABOUR.

By J. C. MORTON. Longman & Co.

This is the second of a series of Handbooks, by a gentleman well known as the Editor of the "Agricultural Gazette," treating of the various branches of Farm practice; of course more immediately applying to the home country, but from which many a stray gleaner may be culled. The first of the series treated on Dairy Husbandry, with instructions how to make butter and cheese, and the one before us enters at some length into "Statistics of Farm Labour;" the "Agricultural uses of Steam, Water, and Wind," and their respective cost; "The Labourer," in connection with hand labour; "Cost of Farm operations;" "Live Stock management," &c.

The cost of these Handbooks is but Eighteen pence, and when those in preparation are completed, the Agriculturist will have a valuable library, which must be of considerable service and advantage to him.

Treating of economy of Hand power, the author remarks:—

"It is plainly folly in the labourer to think that as regards the mere labour of the land, he can compete with either steam or horse power. Strength of body is desirable, and sinew hardened by long practice in hard work has a considerable marketable value, for that, however hardly it may sound, is the aspect of the matter in which the interests of the labourer most directly appears; but it is clear, that for sheer lift and the mere putting forth of force, horse power, and still more that of untiring steam, must grind the soul out of any body that shall pretend to competition with it. It is in the cultivation not so much of mere strength of body as of skill and intelligence that the safety of the labourer lies, and in his capability of education he is perfectly secure."

A PACKET OF SEEDS SAVED BY AN OLD GARDENER.

MANY of our readers who have perused those charming little books which have been noticed in our pages, "Our Farm of Four Acres," and the "Garden that paid the Rent," will doubtless welcome, as we have done, another, evidently from the same author. This volume has little practical information on the science of Gardening, but it has much that will tend to make young men diligent and honest gardeners. The "Old Gardener," thanks to the liberality of his Master, had gone here and there, to Chiswick, to Regent's Park Gardens, and other places, and on arriving home had jotted down a few remarks to send to some of the Gardening papers; "I've tossed the caps down," (he remarks), "let every master and man wear the one that fits him."

His father was a gardener, but a drunken one, and his wife fetched him from the public-house on Saturday nights, took what money she could find in his pocket when she got him to bed, and made the best of it. By and bye the son got a situation some 40 miles away, to which he started, with his whole stock in a handkerchief, and with this piece of advice from his father: "Jem," says he, "take care of drink, 'tis that makes your bundle so small. Promise me that, and never learn to swear." Many were the hardships the poor lad endured, oftentimes casting longing looks at the bones which the Squire threw to his dogs; but he had a bold heart, and carried his head as well as he could; all his leisure was spent in learning to read and write, and after a while he got the under-gardenership. There was a charity club in the town, but no one who did not attend Church was allowed to participate; no charity, and no allotments for those who went to meeting; and here our friend gives a wholesome bit of advice. "If the Church of England ministers would only save seed more carefully, and sow it more industriously, they'd see a deal better crops; and if we, poor folks, only talked religion less, and did religion more, we shouldn't hear so much sneering at meetings."

In a few months his master recommended him as head gardener to a gentleman living some 80 miles off; here he found every thing slovenly and dirty, and at sixes and sevens; there was a conservatory, greenhouse, and pits, with two houses of grapes. It was November, but not a flower, but he set to work.

"I began upon the greenhouse, washed the glass and paint-work outside; this made a better light to get the plants cleaned; and a pretty job it was to get the scale off and the fly killed. It was long since they'd smelt tobacco. I had a foreman, two men, and a boy; and a good set they were, only at first humdrum and sleepy like him that was gone before me. After the plants were got in as good order as they could be, a few lumps of lime slacked in water served to whiten the wall and flue;

and a sponge, brush and mop, altered the inside of the paint-work as much as the out. When we had finished, my foreman said, "I would not have believed it. We did just the same with the Vineries; and when they were finished, I made my men clean themselves: for I always say that a gardener who does not keep his body and clothes clean is a dirty gardener with his plants; and if I was a gentleman I'd have nobody about me that neither pleased eyes nor nose."

But "Jem" had become "Mr. Gregory" now, and too proud to attend to the Squire's instructions, but his pride had a fall, for one evening the Squire said, "Gardener, I wish you to get another place. You want your way in everything, and I'll have my own. If you do all you can, you are always telling me so; and I want a man that'll recollect that I do my part too." Gregory saw this now as clearly as if he'd just come out of a wood, but it was no use asking to stay. He learnt bitterly that if good men are scarce, good places are not like hedge-fruit in Autumn, and now everything went wrong, sickness came, and savings gradually diminished; no regular work to be got; but he begs young gardeners not to think him a chicken-hearted, snivelling fellow for telling his troubles, for through them all he walked stiff and upright. "I never put my nose into another man's pot, and never begged a favour of a living soul!"

The new man, however, did not stay long, and after a while, Gregory was reinstated by his old master, and looking through the houses, he soon found that the man who had gone away was cleverer than he was, he could see that with half an eye. Every thing was in the best order, and so many new plants. To get behind hand, says he, will never do. So ever after he took in all the different books and papers he could afford, and went and looked at other places to see what other folks were doing.

"You may stop at home and look at your own doings, till you think you cannot be beaten; but I've learnt there's nothing like looking about you; and however well you may do a thing, try and do it better."

An appeal is made by the Squire to "Mr. Gregory," in this case, "My Gardener (for instance) is going to leave me, and claims a lot of plants—some of the best in my conservatory—which he says were given him; whether or not he got them in exchange I cannot say, but I've seen them in my house for more than a year." Mr. Gregory was of opinion that if a gardener grows plants at his master's expense of time and means, they should be left behind when he goes away, unless an agreement is made to the contrary. It is well young gardeners should know this.

The old Gardener enlightens us about "*Flow-er Shows of the old country sort*;" tells us how he goes to the Chiswick Exhibition and meets with a friend there, runs against Doctor Lindley and so on; but our readers, if they are interested in the book from our cursory remarks, must purchase it for themselves. Young Gardeners or old, the money will be well laid out.

Popular Garden Flowers.

No. II.

ERICA ARISTATA.

Mr. Moore, in his second number, figures two very choice varieties of the awned Heath, both Seedlings, raised by Mr. Barnes, of the Camden Nursery, Camberwell. They are the progeny of some splendid hybrids, raised a few years back, between a variety called M-Nab's *aristata major* and the true *Sprengelii*. The variety *Barnesii* has a varnished red tube, deep sanguineous at the mouth, limb segments white, very broad, truncate, with a maroon

crimson ring conspicuous at mouth of the tube. Flowers in whorls of from four to seven flowers, about an inch in length, leaves which are five in a whorl, recurved, callososerrate, mucronate or awned.

This variety won a silver medal at an Exhibition of the Royal Botanic Society in March, 1860.

The variety, *virens*, differs from *Barnesii*, in having a denser whorl, and in the form and colouring of the flowers; they grow about eight together, and are of a bright varnished brick red, the tube about an inch long, broadest towards the base, slightly swollen towards the mouth; the limb segments are about four lines broad, rounded, spreading, of a blush-tinted white, with a broad and very deep coloured reddish brown ring conspicuous at the mouth of the tube; leaves four in a whorl.

This variety received a bronze medal at the Royal Botanic Society's meeting in March, 1860, and was subsequently commended by the Floral Committee of the Horticultural Society, on account of its having a decided tendency to bloom in large trusses.

Cineraria Senecio cruenta.

Variety 1 of this species is named *Reynold's Hole*,—a large rich purplish crimson self, remarkable for the breadth and smooth surface of its florets, which are slightly reflexed, the centre being of a dark purple. For these merits the Royal Botanic Society awarded it a first class certificate of merit.

Variety 2. *Bridesmaid* is white, slightly crimson-tipped, a free growing, free blooming, showy variety; flowers larger than average. Awarded a second class certificate by the Royal Botanic Society.

Variety 3. *Marginata*, produces even and well-formed slightly concave flower heads; florets smooth and broad, white at the base, with a slight tip of rosy lilac, and set round a small, compact, dark-coloured disc; of delicate habits. Awarded a certificate of merit by the Royal Botanic Society, and recommended by the Floral Committee of the Horticultural Society for its form and even markings.

Variety 4. *Constancy*, an elegant and showy variety for decorative purposes. It is diffusely branched and vigorous in growth, the florets somewhat convex, white in the lower half, and deep tinted rosy-purple above, with a distinct purple disc. Commended by the Floral Committee of the Horticultural Society.

Variety 5. *Garibaldi*. Judging from the plate, this is the gem of the five figured by Mr. Moore; showy, free in habit, flower heads large, florets rather thin in texture, but broad and flat, of a bright lilac purple, white at the base, forming a ring around the purple disc. Raised by Perkins and Son, nurserymen of Coventry.

Fortune's Primrose. Primula Fortunii.

We can scarcely conceive a more charming *Primula* than this, resembling *denticulata* in habit, but more vigorous in its growth, producing taller flower scapes, and very much larger flower heads, with a prodigious number of flowers packed closely together; leaves not unlike the common *Primrose*. The scapes are from eight to twelve inches high, supporting a dense flattish spreading head, consisting of an indefinite number of distinctly pedicellate flowers, which are nearly an inch in diameter,

six to ten lobed, with emarginate or bifid lobes, of a delicate lilac, with a straw-colored eye and tube.

Its history is obscure, but a specimen grown by Messrs. Henderson and Son, of the Wellington Road Nursery, St. John's Wood, was awarded a certificate in acknowledgment of its beauty.

Cattleya Rollissonii.

This lovely plant imported into England from the Organ mountains of Brazil by Messrs. Rollinson, of Tooting, has the habit and inflorescence of *C. Mossiae*, of which it probably is a variety,—petals bluntly roundish-ovate, suddenly narrowed at the base into a short claw, slightly wavy-crisped, and somewhat denticulated, blush-white, lip blush-white, with a deep orange-yellow stain in the centre, and a pale lilac belt near the front, the incurved side lobes lilac, the margin somewhat wavy and denticulate in front.

HOW TO PACK FRUIT.

In an experience of over 20 years, (remarks Mr. Kidd, in a letter to the *Cottage Gardener*), in packing fruit for distances, varying from 50 to 500 miles, I have found no better method than this. It is simply box, soft paper, and sweet bran. A box is chosen in size, according to the quantity to be sent. A layer of bran is put at the bottom, then each bunch of grapes is held by the hand over the centre of a sheet of paper; the four corners of the paper are brought up to the stalk, and nicely secured, then laid on its side in the box, and so on, until the first layer is finished; then fill the whole over with bran, and give the box a gentle shake as you proceed. Begin the second layer as the first, and so on, until the box is completed. Thus, with neat hands, the bloom is preserved, and may be sent to any distance; but, with clumsy hands, quite the contrary, and often an entire failure, as the putting in and the taking out of the box are the most important points to be observed. I have invariably packed 60 or 80 bunches of grapes, and 50 or 60 dozen of peaches or apricots in one box, and received letters from employers to say that they had arrived as safe as if they had been taken from the trees that morning.

Societies.

Horticultural Improvement Association.

THE Monthly meeting of this Society was held at the Mechanics' Institute, on Wednesday, the 22nd instant. Forty-four members were present.

The minutes of the previous meeting having been read and confirmed, the persons proposed as members last month were ballotted for and elected.

The Secretary read a letter from Mr. McMillan, the Secretary of the "Victorian Mutual Improvement Association," stating that his Society fully appreciated the honor conferred upon their Office Bearers, in having been elected as honorary members of the "Horticultural Improvement Association of the Western District," and that his Society had unanimously elected all the office bearers of the Geelong Society as corresponding members.

One hundred and seventy-five packets of seeds of hardy trees and plants, being a portion of those supplied by Dr. Mueller, were distributed amongst the members present; and the Secretary was

requested to convey the thanks of the Society to that gentleman for his valuable contribution.

Schedules for the forthcoming Exhibition of Plants, Fruit and Vegetables, on the 19th September, were circulated amongst the members.

The following persons were proposed as members:—Messrs. J. Mackenzie, James Fort, T. W. Peron, Patrick McDonald, Henry J. Hodgetts, Richard Clarke, Captain Huddart, G. A. Milward, G. A. Stephen, James Simson, Martin George, Patrick Cain, James McCarthy, Robert King, John Dawson.

Mr. Sydney Powney, at the request of the Chairman, re-read his paper on the "Propagation of the Pear," and a spirited discussion followed, in which Messrs. Brewster, J. J. Myles, and Batson took part. Mr. Adcock was opposed to root pruning; he would not stop rambling roots for it was on these very roots in search of nourishment, the existence of the tree depended.

Mr. Neilson said he desired practical information and knowledge on the subject under discussion, not theoretical, whether it were the propagation or the cultivation of the Pear.

In considering the paper read by Mr. Powney, he had been led to refer to a letter, by that gentleman, which he found at page 47, in the vol. of the *Gazette* for 1857, and which appeared to him (Mr. N.) to hold a doctrine the opposite of that maintained by the writer of the paper in 1861, thus giving the appearance of two different systems. His own experience during these four years, in reference to the Pear tree, was that in propagation, pips were required for stock or seedlings, from which the best fruit would be produced, suitable for domestic purposes of baking or preserving.

Vanlon, one of the most successful cultivators, has placed on record his own experience during 15 years, and the perusal of his experiments during that period, would amply repay anyone interested in the subject.

Situation constituted one of the great secrets in the successful cultivation of the Pear. In trenching, much depended on the nature of the top soil, but under all circumstances it was necessary to incorporate one soil with the other proportionably, while the depth of trenching depended also on the nature of the soil.

A former speaker (Mr. Miles) had asked what was the object of trenching? He replied it was for the ramification of the roots; as to paving or stoning the bottom of the trench and such appliances, these may be very well in an artificial state of things. The art of pruning had been ably and concisely handled, with a view to public information and convenience on the subject, but the grand secret of how shoots, &c., are best produced never can be decided as to any particular locality except on the spot; rules may be given, but after all it is the man—the gardener, who, making himself conversant with all around him, is the best judge of practical operations; the formation of the tree, the benefit of old trees, the promoting of bloom, and the curing of diseases, are subjects more and more valuable and interesting as they are practically studied and discussed.

In planting, a great deal depended on how it was performed, and their object in these meetings was, by mutual experience and information, to benefit each other.

Daniel Bunce, Esq., gave notice that at the next meeting he would furnish 300 or 400 packets of seeds for distribution amongst the members, and read an essay on "Trees suitable for planting in towns."

Mr. Brewster promised a paper at the next meeting on "Pruning in General."

Victorian Gardeners' Mutual Improvement Society.

The usual monthly meeting was held on Monday, the 20th instant. The President in the chair.

Mr. William Ferguson, gardener to the Hon. J. H. Brooke, read a paper "On the Culture of Pot-

Roses in Victoria," on which some discussion took place.

A conversation ensued as to some correspondence which had taken place between this Society and the President of Lands and Survey, relative to a grant of land for the purpose of erecting premises in which to hold meetings, exhibitions, &c.

Mr. Brooke declined to receive a deputation from the Society, as he considered it inexpedient to grant the application.

The following resolution was then proposed by Mr. Adamson, seconded by Mr. Hyndman, and carried unanimously:—

"That this meeting regret to find that the Hon. the President of the Board of Land and Works evinces so much ignorance of the true and permanent interests of this colony, as to state that it is considered inexpedient to grant land for any such purpose as that stated in Rule 9."

Kilmore Agricultural Society.

The annual ploughing match took place in a paddock near the Farmers' Arms Hotel; eleven horse teams competed, but no bullock teams were entered. The work of most of the ploughs was good, particularly those of Miller, Morrissey, Still, and Moore, and the judges must have had some difficulty in deciding between them. Their awards however were to James Still, first prize, £5; second prize of £3, to Robert Miller; third prize of £2, to S. Moore, ploughing for Mr. Boyd.

The Apiarian Society.

We have been favoured with a copy of the Rules and By-laws of a Society lately established in Melbourne, having for its objects the collection and dissemination of information respecting the habits of the Honey Bee, and management on the Conservative system. At each of the meetings which are held monthly, papers are read on the above subjects, and designs, models, or anything connected with Bees, or Bee management are exhibited.

The value of such a Society it is scarcely necessary to comment on; and we trust the small annual subscription (five shillings) will induce a large number of our readers to lend it a helping hand, not merely by subscribing, but by contributing information. We shall be happy to forward the names of parties wishing to become members, as well as their subscriptions, if left at the office of the "Gazette."

NEW ARRIVAL OF AMERICAN AND CHINESE SEEDS.—In view of a probable demand for the best kinds of tobacco, it is interesting to note the arrival of a consignment containing several of the finest American varieties. We notice that Messrs. W. Law and Co., seedsmen, have received parcels of the Connecticut seed leaf, and four other sorts, including the Havana. We notice, also, several kinds, both of rock and water melons, which, if saved with care, will be valuable acquisitions; as, excepting a few similarly recent introductions, our colonial melons are become so mixed and crossed, that their value is seriously impaired. Dwarf Akra and Bene are two novelties which we have not yet seen in growth, but which are highly spoken of in America. A short time ago the above firm introduced to notice the "spergula pilifera" for evergreen lawns; they now favour us with another novelty in the "Chinese carpet grass," which, if it retain its verdure, as it is reported to do, through the hottest weather, will be heartily welcomed by colonial gardeners.

THE *Argus* states that many thousands of young China tea-trees are now springing up in the Botanical Gardens, from seeds sent by the Governor of Hongkong. Some 20,000 stone pines have also been raised, and it is expected that the number will be doubled by a second sowing.

To Subscribers.

In order to meet the regulations of the Post Office, it will be necessary that this year (1861) we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.
With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

The next No. will be published on 23rd June.

SUBSCRIPTIONS received since our last issue:—

£	s.	d.	£	s.	d.
Mr. N. Roche, per			Mr. B. Barrows (R)	0	10
Lang and Co. ... 0	4	0	W. Boobier (R)	0	10
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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 7.

JUNE 23, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

FARMING OPERATIONS

WITH this present month, June, will terminate the regular season for Wheat Sowing, and it will scarcely be safe, except in the higher, drier, later, districts, to extend that operation into the following month. All, of course, depends on the season, the soil, and the locality; we have seen wheat sown in August produce twenty-four bushels to the acre in December; but this was a very rare exception, and one which it would be dangerous to adopt as a precedent.

All the Oat and Hay crops should now be rolled, where the nature of the ground will admit of it; and the horse-hoe should be kept at work among the weeds.

Prepare ground for English barley, and sow in July; be sure that it is well cleared before the seed is sown. It only requires a little attention on the part of our Agriculturists to enable us to produce as good malting barley as our friends at home.

All roots that may still be in the ground should be taken up and secured immediately; the weather has been tolerably dry and favourable hitherto, and a change for storms and rain may be reasonably expected now. Sheltered feeding and sleeping places should be erected for milch cows and other stock, depending on the farm-yard or the field for their food.

Prepare and clean out all the poultry houses, and get new male birds introduced among the hens for the purpose of crossing. Weed out all old and inferior hens, and keep only those that are worth breeding from. As the poultry will likely commence laying in July, the cross should be resorted to as soon as possible.

Keep a good supply of litter in the yards, in order to have constant additions to the manure heaps or pits. Without this precaution a great quantity of the best of the manure will be entirely lost.

ESSAY ON FARMING.—The Port Phillip Farmers' Society purpose giving a gold medal, value £20, for the best Essay on "Farming in Victoria;" the prize Essay to be decided by the Board of Agriculture.

For the Use of Settlers, Farmers and Others.

THE UNDERSIGNED is appointed Sole Agent in the Colony for the Sale of CONDY'S PATENT FLUID; and the first consignment will shortly arrive, per *Anne Lee*, from London. This CATTLE MEDICINE is already extensively used in Europe, America, India, &c., for the prevention and cure of Pleuro-Pneumonia, Scab, Foot-Rot, dressing after shearing, disinfecting the ground and preventing contagion; and is described by eminent authorities to be the most effectual and healing remedy ever introduced, actually destroying infectious matter after it has formed, and arresting its progress. It costs, when diluted for use, about 1d. per gallon.

Orders transmitted by

R. H. BULLOCK,
Geelong.

The Geelong and Western District
AGRICULTURAL AND HORTICULTURAL
SOCIETY.

THE GREAT ANNUAL EXHIBITION

Of this Society for

CATTLE, HORSES, SHEEP, PIGS, POULTRY,
PRODUCE, IMPLEMENTS, &c.,

Will take place on the Society's Grounds, Ryrie Street east,
On Thursday, 5th September current.

PRIZE LISTS and every information may be obtained from the Secretary at his office, 81, Moorabool-street, where Members' Tickets, (£1 1s. each) for the current year, are now ready.

JAMES CAMPBELL,
Secretary.

Victoria Buildings, Geelong,
June 7th, 1861.

Colac Agricultural Society.

THE SECOND ANNUAL PLOUGHING MATCH

Of this Society, will take place

On THURSDAY, 4th JULY, 1861,
On the Farm of Mr. Henry Boucher, Irrewarre,
near Colac.

THE Ploughs to be on the Ground by Nine o'Clock A.M., to commence punctually at Ten. The Rules and Regulations may be seen on the Placards, and will be announced previously to starting. The Prizes offered are as follows:—

HORSE PLOUGHS.

1st Prize	£5
2nd ditto	£3
3rd ditto	£1

BULLOCK PLOUGHS.

1st Prize	£4
2nd ditto	£2
3rd ditto	£1

BOYS' PLOUGHS.

Horse Ploughs	£2 0 0
Bullock Ploughs	£1 10 0

For the best Pair of Plough Horses competing ..	£3 0 0
Ditto Team of Bullocks	£1 10 0
Ditto Plough	£1 0 0
Ditto Groomed Pair of Horses	£1 0 0

J. S. MISKIN,
Secretary.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

CHRYSANTHEMUMS. (B. B.)—If the plants be large, take them up, and plant small pieces having not more than one or two shoots. If planted in good moist soil, you will find that you will have much finer flowers, and plenty of them, than by allowing the old plants to remain from year to year. We prefer to plant afresh every year. In England, where these things are grown to perfection, and where they are compelled to grow them under glass, only one or two flower stems are allowed to grow, where fine flowers are required; and they grow from cuttings every year. You will find yours throw up plenty of young shoots for the purpose presently. This is one of the most valuable late Summer and Autumn plants we have, and we wonder much with you that we see so few varieties here. Surely we can raise new varieties if we try; and our nurserymen may find it to their interest to introduce some of the new kinds.

CHEMISTRY OF SOILS. (T. G.)—Like you, we do not always agree with our correspondents; nevertheless, there are some things on which we may gain information even from persons who differ from us. Liebig says, "If, after a time, the soil is to recover its fertility, the mineral substances extracted from it in a series of years must be again restored to it. If the land in the course of ten years has yielded ten crops, without restoration of the mineral substances removed in these crops, then we must restore these in the eleventh year, in a quantity tenfold that of the annually removed amount, if the land is again to acquire the power of yielding a second time a similar series of crops." How this conclusion is arrived at, we could not in this place explain; but we strongly advise you to read Liebig's Agricultural Chemistry, and Lawes' or Tower's on Soils and Manures: and though you may not be able to carry out the theories therein contained, you will gain much information that will be of great use to you as an improving farmer.

HORSE BREAKING. (West B.)—We cannot answer legal questions; but we have no doubt whatever about the impropriety of trusting your young Horses in the hands of men, whose principle is to reduce them to subjection by fear, rather than by caresses and kind treatment. If you employed the man, you must pay him for what he has done; but, surely, you need not keep him any longer, if you only engaged him by the week.

GLANDERS. (Carrier, Ballaarat Road.)—We regret that we are unable to give a satisfactory reply to your question. This is the most formidable disease to which the Horse is subject, and one which has hitherto baffled the exertions of the most experienced Veterinary Surgeon; and the proper treatment of the disease, to effect a cure, may be regarded as involved in the greatest obscurity. We advise you, by all means, to remove your suspiciously affected Horse from the neighbourhood of the others, or they will most certainly catch it. A friend of ours, in Scotland, died from an attack of Glanders, having by some unexplained cause imbibed some of the virus into his system, it was supposed from his pocket handkerchief. So, you see, how careful you ought to be.

RANUNCULUS ROOTS. (Florist.)—Yes, you may still plant these and Hyacinths, but it would have been better to have done so sooner. Planted in beds where you can protect them by a slight awning in a very hot sun-shiny day, as they will be late. They will yet be of great service in your new garden.

PLANTING TREES. (Anny, B.)—Plant all kinds of Fruit Trees at once, and get dwarfs. Stems a foot or eighteen inches long, are quite long enough for this Colony.

MANURES.

No portion of the work necessary to be performed upon a farm is either less understood or less attended to than the management and application of Manures. Again and again we have endeavoured to show the vast advantage to be gained by the agriculturist who attends steadily to this important branch of agricultural economy; for it is an economy in the strictest sense of the word. An attentive observer rambling among our colonial homesteads, cannot fail to be struck with the extraordinary waste displayed in the matter of Manures, so far as regards the non-conversion of straw, leaves, and all kinds of rubbish into profitable material. Instead of any ordinary pains being taken to achieve their object, the most slatternly negligence is nearly everywhere apparent. Heaps of refuse from threshing machines and barns are allowed to lie exposed in thin beds to the full action of the sun, wind, and rain, instead of being carefully heaped up, and made to pass through the stockyards, milking sheds, or stables on the property, so as to pick up and retain the ammonial and other elements, so lavishly provided by the natural excrements of the animals. On all hands, except perhaps in the very richest districts, the lands themselves give the most convincing proofs that they require stimulating; and although in a large majority of cases the material required to produce these stimulants is scattered profusely on the property, no effort is made to convert it into a fertilising power. Even in those exceptional cases, where some attention is bestowed on this important subject, it is done in such a slovenly and unscientific manner, that the labour bestowed is all but lost; and further, where the manure has been tolerably carefully made, it is not by any means an uncommon occurrence to find it spread out thinly over the land with which it is intended to incorporate it, or placed in small heaps upon the field for days and weeks before it is ploughed down into the soil, thereby exposing it to the full action of the weather, and depriving it of all its most valuable qualities.

A very good authority says, that "The farmer who imports his ammonia from the Chinha Islands, and dissipates to the four winds of heaven that furnished by

Horticultural Improvement Association OF THE WESTERN DISTRICT.

GRAND EXHIBITION

PLANTS, FRUITS, AND VEGETABLES, to be held
at the MECHANICS' INSTITUTE, Geelong, on
THURSDAY, 19TH SEPTEMBER, 1861.

SCHEDULE OF PRIZES.

Open to all Exhibitors.

Class A.—POT GROWN PLANTS, IN FLOWER.

1. Collection of six stove or green-house Plants, excluding Fuschias, Geraniums, or Annuals.
2. Collection of three ditto, ditto.
3. Single specimen, ditto, ditto.
4. Best collection of Plants.
[Exhibitors under this section to intimate the space required.]
5. Best six Camellias, varieties.
6. Best three ditto, ditto.
7. Best six Azaleas, varieties.
8. Best three ditto, ditto.
9. Best specimen Azalea.
10. Six Gloxinias, varieties.
11. Three ditto, ditto.
12. Three Achimenes, ditto.
13. Six Calceolarias ditto, herbaceous.
14. Three ditto, ditto, ditto.
15. Best ditto, shrubby.
16. Six Cinerarias, varieties.
17. Three ditto, ditto.
18. Six Mimulus, ditto.
19. Three ditto, ditto.
20. Best specimen Mimulus.
21. Six Auriculas, varieties.
22. Three ditto, ditto.
23. Best specimen Auricula.
24. Three Polyanthus, varieties.
25. Three Primulas, ditto.
26. Six Petunias, ditto.
27. Three ditto, ditto.
28. Three Cacti, ditto.
29. Best specimen Cactus.
30. Three Ericas, varieties.
31. Best specimen Erica.
32. Nine Fancies, varieties.
33. Six ditto, ditto.
34. Six Geraniums, scarlet, varieties.
35. Six Geraniums, varieties, florist's flowers.
36. Three ditto, ditto, ditto.
37. Twelve Pelargoniums, ditto, ditto.
38. Six ditto, ditto, ditto.
39. Three ditto, ditto, ditto.
40. Six Fuschias, ditto.
41. Three ditto, ditto.
42. Best specimen Fuschia, dark.
43. Ditto, ditto, light.
44. Twelve Roses, varieties.
45. Six ditto, ditto.
46. Best specimen Rose.
47. Three Begonias, varieties.

Class B.—POT GROWN PLANTS, IN OR OUT OF FLOWER.

48. Collection of Conifers and Taxads.
49. Ditto, Native Plants.
50. Ditto, Ferns.
51. Three Ferns, varieties.
52. Specimen Fern.
53. Three Lycopods.
54. Specimen Lycopod.
55. Best six Plants for beauty of Foliage, distinct species.
56. Best three ditto, ditto, ditto.
57. Best New or Rare plant.

Class C.—CUT FLOWERS.

58. Twelve Anemones, varieties.
59. Six ditto, ditto.
60. Twelve Ranunculus, ditto.
61. Six ditto, ditto.
62. Twelve Tulips, ditto.
63. Six ditto, ditto.
64. Six Hyacinths, ditto.
65. Three ditto, ditto.
66. Six Gladiolus, ditto.
67. Three ditto, ditto.
68. Collection of Bulbs and Tubers.
69. Twelve Pansies, varieties.
70. Six ditto, ditto.
71. Twelve Roses, ditto.
72. Six Roses, varieties.
73. Collection of Roses.
74. Twelve Verbenas, single trusses.
74. Six ditto, ditto.
74. Twelve Stocks, varieties.
75. Collection of Stocks.
76. Collection of Cut Flowers, excluding Bulbs, Tubers, and Annuals.
77. Collection of Annuals.
78. Collection of Delphiniums, (Larkspurs).

"his own farm, is nearly as wasteful as he would be were he to give away his straw for nothing, and to purchase from others what he required for his own use." This is perfectly true; and few people can be brought to believe the immense advantages they sacrifice annually in failing to preserve the filth and rubbish of their farms. We have all along objected to the indiscriminate use of guano in agricultural pursuits, because it impoverishes the soil to a greater extent than any corresponding advantage gained in the crop forced by it can justify. Guano is useful only in forcing crops and plants, and it is so strong a stimulant, that the land on which it has been used will speedily become exhausted unless strengthened with a bountiful supply of manure.

Much of the blame attributable to the farmer may be laid at the door of the landlords, who have, to secure a high rental for a few years, failed to enforce those provisions in the leases of their tenants which would bind the latter down to adopt a proper system of preserving and applying manure. No country in the world possesses greater capabilities for judicious farming than Victoria; because there is no country where the green and root crops can be cultivated to more advantage. It is the home of the Mangold, the Beet, Parsnip, Carrot, Sorghum and Millet, and it is incomprehensible to many how, with all those facilities at our finger's ends, and with a virgin soil to open up, we should continue to persevere in the old slovenly system that is neither comfortable nor profitable. More especially are we astonished at those farmers who are their own landlords, and who continue to pursue this most objectionable and careless system; for them there can be no such excuse as that so reasonably put forward by the tenants of other proprietors. Their ground is their own, and if they choose to work it out in a few years, by practising a most unproductive system of husbandry, they have no resource left to fall back upon, by which they may prop up or recover their position. Not so the tenant farmer; unless he be bound down by the terms of such strict leases as we should like to see introduced, he works the life-blood out of his land, in say, from five, to ten, or twelve years,—leaves it a wreck of wretched

weeds, and locates himself on some other farm to repeat this disastrous system of impoverishment.

How different should be the treatment of the land; how generous would it be in return for the food supplied to nourish it; how contented would those be who felt this gratitude of the earth; and on how much better a footing would be placed the relative positions of landlord, tenant, and servant. Now, it is an incessant and precarious struggle for existence with the farmers; but by a judicious attention to the feeding of their lands, a less anxious, less harassing, and more secure result might be safely calculated upon.

It is an established fact that the more we take from land the more it will continue to give, but that must not be understood to mean that we are to give the land nothing in return. What is implied is this: the greater amount of any crop we reap, leaves a corresponding greater amount of waste to be converted into manure; that waste if carefully prepared and applied will return more fertilizing powers to the land in a small degree, than the previous crop had exhausted it of. So that by a constant system of feeding the land, and by allowing it an occasional rest under grass fallow, we shall have it,—slowly perhaps, but surely,—gradually becoming more productive year after year. If there was no possibility of procuring manure, except by carting it home to the land, then farming certainly “would not pay,” but where we have abundance of the material allowed to go waste annually, instead of being converted into the necessary fertilising power, there can be little wonder indeed at the unprofitableness of Colonial Farming.

The Preparation and the Application of Manures are the two chief objects to be attended to, and they are the two that least attention seems to us to be paid to here; but as each of these heads will require a separate article, we must postpone the consideration of the first to our next number.

LOVELY WOMEN AND BEAUTIFUL FLOWERS
AN AXIOM.—A beautiful flower without perfume is in the similitude of a lovely woman without virtue or talent.
V.

79. Bouquet for Hand.
80. Ditto Table.
81. Design in Cut Flowers.
82. Bouquet of Wild Flowers.
[Honorary Certificates will be awarded to approved Seedlings or Hybrids in any of the foregoing Classes.]

Class D.—FRUIT.

83. Best collection of Fruit.

Class E.—VEGETABLES.

84. Best brace Cucumbers.
85. Best dish Seakale.
86. Six Cauliflowers.
87. Six Broccoli.
88. Six Cabbages.
89. Asparagus, 50 heads.
90. Dish of Peas, 2 quarts.
91. Broad Beans, 2 quarts.
92. Kidney Potatoes, 3 lbs.
93. Round ditto, 3 lbs.
94. Six Carrots.
95. Six Parsnips.
96. Six Turnips, white.
97. Six Turnips, yellow.
98. Six heads Red Beet.
99. Six ditto Silver Beet.
100. Six Leeks.
101. Dish of Spinach.
102. Six heads of Celery, white.
103. Six ditto, red.
104. Six Lettuces, cabbage.
105. Six ditto, Coss.
106. Rhubarb, 12 sticks.
107. Collection of Salads.
108. Ditto Garden Produce.
[All the Exhibits in this Class are to be fit for Table use.]

EXTRAS.

- Baskets suitable for exhibition of Flowers, Fruits or Vegetables.
Boards ditto, ditto, Cut Flowers.
Model Greenhouse.
Plan for Villa Garden.
Ditto Kitchen Garden.
Group Wax Flowers.

Certificates will be awarded to any deserving Exhibit not enumerated in the foregoing List.

For Amateurs Only.

Class F.—POT GROWN PLANTS, IN FLOWER.

109. Three stove or green-house plants, excluding Fuschias, Geraniums, or Annuals.
110. Single specimen ditto, ditto, ditto.
111. Best Camellia.
112. Best Azalea.
113. Three Gloxinias, varieties.
114. Single specimen Gloxinia.
115. Three Calceolarias, varieties.
116. Single specimen Calceolaria.
117. Three Cinerarias, varieties.
118. Single specimen Cineraria.
119. Three Mimulus, varieties.
120. Three Auriculas, ditto.
121. Three Polyanthus, ditto.
122. Best Primula.
123. Best Petunia.
124. Best Cactus.
125. Three Pansies, varieties.
126. Three Geraniums, ditto.
127. Three Pelargoniums, ditto.
128. Three Fuschias, ditto.
129. Best Fuschia.
130. Three Roses, varieties.
131. Best specimen Rose.
132. Best specimen Begonia.
133. Best collection Plants, not less than twelve

Class G.—CUT FLOWERS.

134. Three Anemones, varieties.
135. Three Ranunculus, ditto.
136. Three Tulips, ditto.
137. Three Pansies, ditto.
138. Three Roses, ditto.
139. Three Verbenas, varieties.
140. Six Stocks, varieties.
141. Collection of Cut Flowers.
142. Bouquet for Hand.
143. Ditto Table.
[Honorary Certificates will be awarded to approved Seedlings or Hybrids in any of the foregoing Classes.]

Class H.—VEGETABLES.

144. Three Cauliflowers.
145. Three Cabbages.
146. Asparagus, 25 heads.
147. Dish of Peas, 2 quarts.
148. Best Dish of Potatoes.
149. Collection of Salads.
150. Collection of Vegetables.

RULES FOR EXHIBITORS.

1. Exhibitors must send to the Honorary Secretary in writing, (at the Mechanics' Institution), between the hours of 10 and 6, on the SATURDAY and MONDAY preceding the

Hedge Plants.

THE last number of the “Gazette” contained some valuable remarks on the substitution of Hedges, for the expensive and unsightly fences, now almost exclusively used for enclosing or sub-dividing Agricultural or Garden lands. The subject is so important that I do not fear to intrude, if I venture to offer a few more remarks on the same subject, confining myself to the enumeration of some other plants adapted, either for forming impenetrable hedges, capable of securing crops against the attacks of all kinds of animals, or suitable only for the sub-division of blocks of lands, where the crops growing therein require shelter against the prevailing winds, which prove so destructive to some of our garden produce.

Amongst the plants of first class or true Hedge plants, able to resist the attacks of animals, I would reckon the following:—

1. *Hakea brachyrhyncha*, a native of Victoria, of a vigorous growth; stiff, sharp-pointed, needle-like leaves cover the whole plant, which has short thick and stiff branches. Little pruning would be sufficient to make an impenetrable hedge with this evergreen shrub. Propagation through seeds.

2. *Bursaria spinosa* or Native Box. This handsome shrub, covered in Autumn with numerous white-scented flowers, grows plentifully in most parts of the Colony. The short stiff branches and branchlets are sharp pointed, almost spiny. Judicious pruning during the first years would form a hedge sufficiently thick to keep out sheep, &c., (at least,) if not also cattle and horses. Propagation through seed.

3. *Coprosma microphylla* also a native of Victoria, often seen near the banks of creeks or rivers, and consequently best adapted for low localities. The branches are slender but prickly, if pruned they will form a thick interwoven mass well able to resist smaller animals. Propagation easiest through seeds.

4. *Mespilus pyracantha* though of rather slow and straggling growth, would yet form a strong and ornamental hedge, as its bright white flowers, and later in the season, its red berries beautifully contrast with the dark green foliage. Propagation easiest through seeds, which ripen in abundance on the plants, not uncommon in Colonial gardens.

5. *Machura aurantiaca*, the Osage Orange from North America, a deciduous leaved tree, with stiff spiny branches of straggling growth, requiring much pruning. Propagation through root cuttings or seeds.

6. *Paliurus aculeatus* or Christ's thorn, also deciduous, but thickly growing and very spiny. Propagation from seed, which might be difficult to obtain in quantities.

7. *Acacia Farnesiana* and *A. Julibrissin*, two prickly Acacias from Asia, with stiff thorny branches, requiring much pruning to make them form a close hedge. Propagation by seeds only.

The seeds of the above plants should, if convenient, be sown in their permanent places at once; if this cannot be done, they may be reared on nurserybeds and transplanted after the first year. To leave them longer would not be advisable, as, (especially those indigenous to Australia,) they do not transplant well if too old. Cuttings prepared and treated in the usual way will also be sufficiently strong for planting out after the first year.

In Algeria, and on some of the Ranges of South America, the American Aloe, *Agave Americana*, is employed, (if I am rightly informed), as a hedge plant. Though doubtless no animal would venture to break through a line of these formidable plants, I would scarcely think it fit for enclosing fields, as it would require a long time to grow to a sufficient size, and would require a double row, planted in different years; it flowers after about 15 to 20 years, and dies after flowering. The second row would have to take the place of the first after this is done. Too much room would thus be taken up by these hedges. It might answer for planting on railway lines where space is not wanting.

Various kinds of prickly figs (*Opuntia*), would seem to be suitable for forming hedges and formidable barriers, but their heavy leaves are apt to break down, either through their own weight, or through the force of the wind, and I might swell this list to a far greater length, as numbers of other plants may be found more or less adapted for our purpose. Several other kinds of Australian *Hakeas*, Sweet Briar, some kinds of *Rhamnus* might be named, but I fear to intrude too much on your space, especially as I mean to say a few words on plants affording shelter to the crops growing in gardens and surrounded or subdivided by such hedges.

Amongst these ranks first—

1. *Pittosporum undulatum* from New South Wales, and *Pittosporum eugenoides* from New Zealand, both of which are magnificent evergreen dense growing shrubs, which afford excellent shelter, and are highly ornamental. Being naturally of close and regular pyramidal shape, they would require very little pruning to keep the hedge in order. The berries of the former contain great quantities of aromatic oil which might be turned to some use by the perfumer. Both are propagated by seed.

2. *Willematia Africana*, and several of the nearly allied *Ceanotus* (*C. thyrsiflorus* &c.) evergreen ornamental shrubs of quick growth requiring a regular and sharp pruning. Propagation by seeds and cuttings.

3. *Acacia lophantha*, falsely called the Cape Wattle, and *Genista canariensis*, the Cape Broom. Both are quickly growing plants, but rather objectionable, as their lower branches are apt to die, and thus form unsightly naked places in the hedge. They produce seeds in abundance which germinate freely. Propagation by seeds sown on the spot where they are to remain. *Genista Spachiana* is similar in habit and growth to the Cape Broom, but more ornamental and might be preferred on that account.

4. The common privet, *Ligustrum vulgare*, well known to form beautiful regularly shaped hedges, which are easily kept in order. The berries of this plant contain a harmless red dye, which, on some parts of the Continent of Europe, is occasionally used for coloring red wines.

The *Guava Psidium* is similar in growth to the privet, and might perhaps be found useful for planting hedges in the warmer districts of this Colony.

5. White Mulberries, perhaps the most useful of all mentioned as yet, affording not only shelter, but also the means of rearing

Exhibition, a list of the articles which they purpose exhibiting, stating in the case of Collections, the space which such Exhibits are likely to occupy.

2. Exhibits are to be delivered at the Mechanics' Institution, not later than 10 o'clock a.m., on the morning of Exhibition, and Exhibitors must see that their Exhibits are properly classed and numbered, or they will not be taken into consideration by the Judges.

3. All articles intended for competition are to be the *bona fide* property of the Exhibitor, and to have been in his possession for at least one month prior to the day of Exhibition. An infringement of this rule will disqualify Exhibitors from taking prizes in any class whatever during the Exhibition.

4. It is desirable that every article exhibited should be neatly and correctly named, and the name conspicuously placed for the convenience of visitors.

5. No article will under any circumstances be allowed to be removed until the conclusion of the Exhibition, and then only with the consent of the Stewards; and it is distinctly understood that all Exhibits are to be considered as the property of the Society during the hours of Exhibition.

6. Any exhibits more or less than the quantity or number stated in the foregoing Schedule, will be disqualified.

7. Members of the Society will be allowed to exhibit free of charge. Exhibitors who are not Members will pay a fee of One Shilling.

8. The Exhibition will be open to the Public from 2 to 6 o'clock, and from 7 until 10 p.m. MEMBERS will be admitted on production of their Cards of Membership; EXHIBITORS, on production of an Exhibitor's Ticket, and the PUBLIC on payment of One Shilling.

9. The decision of the Judges in all cases is to be considered final, but any protest against, or complaint of irregularity in Exhibition, must be lodged with the Honorary Secretary within one hour after the opening of the Exhibition, for the consideration of the Judges.

10. The above Rules and Regulations will be rigidly adhered to.

SAMUEL HANNAFORD,
Honorary Secretary.

Schedules of Prizes may be obtained of Members of the Committee, Mr. William Clarkson, Ryrie Street; and Messrs. Heath & Cordell, Malop Street.

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James Moss, near the Red Lion, Hawthorne.

Child and Price, Dispensary, Brunswick.

John Davison, Malop-street, Geelong.

David Teeson, Moonee Ponds.

H. G. Powell, Seedsman, High-street, Kyneton.

G. W. Glass & Co., Seedsman, Market-street, Castlemaine.

George Dunbar, Seedsman, Dandenong Hotel, Dandenong.

Just Published,

The Vine in Australia,

BY

H. C. KELLY, M.D.

DEMY 8vo. Cloth, Illustrated. Price, 15s.; or Sent by Post, 17s. 6d.

Synopsis of Contents:—

Chapter 1. Historical Introduction.

" 2. Climate, &c.

" 3. Soil and Situation adapted to Vines.

" 4. Preparation of Soil and Mode of Planting.

" 5. Pruning. (This chapter is illustrated with numerous wood engravings.)

" 6. Winter Work.

" 7. Fermentation.

" 8. Ditto (continued.)

" 9. Preparation for Vintage.

" 10. Vintage.

" 11. Cellar, Storage, Racking Wine, &c.

" 12. Varieties of Vine cultivated in Australia.

Appendix:—

Chapter 1. Trenching and Terracing, from "Maro's Letters on the Vine."

" 2. Wine Making at Xeres.

SANDS, KENNY & CO., Publishers, Melbourne; SANDS & KENNY, Publishers, Sydney; and may be had of all Booksellers throughout the country.

silkworms. Propagation through cuttings which strike very freely.

Several of our native plants, amongst which I will only mention the Native Currant, *Myoporum insulare*, a thick growing tall shrub or small tree, and the rather straggling *Trachycaryon Klotzschii*, both propagated by cuttings, would form excellent hedges. The same would be said of the British Hornbeam, the Elm, Rosemary, and many others, to enumerate all of which would swell this list, too lengthy already, to an inconvenient size.

Most of the plants mentioned can be easily obtained in the Colony, and all of them are known to be adapted to our climate.

H.

The Calceolaria.

THAN the Calceolaria there are few better plants for either in-door or out-door decoration. The infinite variety of shades of colour, and beautiful and distinct markings, together with their elegant habit of growth when receiving the attentions of the enthusiastic Florist, make them objects of great attraction, and there are few Florist's flowers more admired by the ladies than this same Calceolaria, or, as it is commonly designated, Ladies' Slipper.

We well remember the extraordinary excitement caused by the exhibition of some of the first highly improved varieties, and can but wonder that they are not more cultivated in this Colony than they are, especially the shrubby kinds, which are more hardy as regards bearing the changes of climate than the herbaceous kinds, and are well adapted, under proper treatment, for Flower Garden decoration.

We have stated that there are two distinct kinds of Calceolarias, viz., the Herbaceous, or soft wooded kinds; and the Shrubby, or hardwood kinds, each having hundreds of distinct sub-varieties.

The Seed should be sown in Autumn, in seed pans filled with sandy leaf mould, and as the seeds are very small, they should only be lightly covered, to the depth of about the eighth of an inch, and should be placed in some rather shady place. If out of doors, the seed pans should be covered with a piece of glass, and when water is needed, as it will be before the seeds are up, it should be applied with the finest-rosed watering pot, or what is better, sprinkled with a painter's brush. This is a good method of moistening the soil in any seed pans, which by the way should be about four inches deep, and ten or twelve inches over, and have an inch of drainage materials put in the bottom.

As soon as the plants are fit to handle they should be potted off into small sixties or three inch pots, in a mould composed of one part leaf or very light open mould, one part turfy loam, and one part well rotted cow dung. This should be about the beginning of Spring, and as the soft wooded kinds are very liable to damp off, they must be placed in some spot where they can have plenty of air circulating among them, while at the same time they must be kept pretty moist. We would place them under a covering of oiled calico in the absence of glass, raising the pots on boards off the ground so that the air may circulate freely amongst the pots; and as many other things besides must be cultivated by the

amateur, this kind of contrivance would do equally well for Cinerarias, Mimulus, Primulas, Geraniums, and such like things. When the plants have started into growth, many of the shrubby kinds will require to have the point of the leading shoot pinched out to cause them to throw out branches for the formation of a handsome specimen; and the soft wooded kinds must have any premature flowering shoots pinched out to encourage the plants to throw out suckers or new shoots round the main stem.

It will be seen that the growth of the two kinds are very distinct, and require different treatment as to training. As soon as the small pots are full of young, healthy roots, the plants should be shifted into six-inch pots,—a rather more rich kind of soil, having a little more loam in it than at the first potting, and some broken potsherds or small pieces of charcoal should be mixed amongst the soil. The plants should be kept a little closer for a day or two after this shift, and when they have got fairly over it, should be fully exposed to the atmosphere, which will now be, most likely, dry enough to require that they should be syringed from time to time. About September some of the shrubby kinds may be planted out in the flower beds, and should have encouragement to develop their beauties by frequent waterings; a little liquid manure being acceptable at times, but not if the plants are growing too much to wood. The others will require to be shifted into nine-inch pots before they become at all pot-bound, or the leaves of the plants will become affected and drop off; and may then be allowed to flower; during which period those in pots will require frequent waterings of weak liquid manure.

When they are done flowering for the season, they should be removed to a cool, shady place, and have the flower stems cut back, and be carefully tended with water. They will then commence to grow again, and the herbaceous kinds may be divided at the root, or left to grow as large specimens for the second year. So with the woody kinds, but in each case they should be shaken out of their pots and re-potted in much smaller sizes, to be shifted into larger sizes as they develop their growth. Cuttings may be taken at any time during a healthy growth of the plant, and after being struck in a very sandy soil, should be potted off and treated in a similar manner to seedlings. The advantage of raising from cuttings is, that you perpetuate a variety, while with seedlings you are not sure what they will be till they flower. The plants are subject to green fly, and will require to be frequently smoked.

The Primula Sinesis or Chinese Primrose.

These are very beautiful and most useful for the winter decoration of Green-houses or windows, and may be grown by any one with very little trouble. Like many other things they have of late years been very much improved, and from a six-penny packet of seed some fine fringed flowers, varying much in colour, may be obtained. We observe that they have succeeded in England in producing semi-double fringed varieties, and no doubt the day is not far distant when we shall have them as double as the old English sorts; while for brilliancy and diversity of colour, and for size of flowers they will be very superior.

Seed should be sown early in Autumn or about the beginning of February; and as soon

Price 2s. 6d.

THE VINE;

With Instructions for its Cultivation for a period of Six Years;

THE

TREATMENT OF THE SOIL,

And how to Make Wine from Victorian Grapes.

BEING the Two Essays to which the Prizes offered by the Geelong and Western District Agricultural and Horticultural Society were awarded.

Sold by GEO. ROBERTSON, Elizabeth-street, Melbourne; HEATH and CORDELL, Geelong; and all Booksellers in this and neighbouring Colonies.

The following are Extracts from the Opinions of the Press:—

We have received a copy of the two Essays upon the Cultivation of the Vine in Victoria which were awarded the Prizes, amounting to one hundred and fifty guineas, recently offered by the Geelong and Western District Agricultural Society, for the best Treatises on the subject. They comprise a variety of valuable information with reference to the treatment of the soil for the cultivation of the Vine, and also treat very fully of the manufacture of Wine from the grapes produced. The essays are published in a very convenient form by Messrs. Heath and Cordell, of Geelong, and their contents cannot fail to be a useful auxiliary and trustworthy guide to intending cultivators of the Vine in Victoria. We trust that the publication of these essays may, in the words of the preface, "be the means of imparting fresh vigour to a science which, when fully developed, will prove a great national boon."—*Herald*.

The two Essays before us have each their peculiar excellencies. That by Mr. Belperoud contains a description of seven of the existing vineyards, enters deeply into the question of aspect and soil, and is very copious respecting the treatment of Wines. That by Mr. Pettavel is the most explanatory respecting the treatment of the soil and the management of the plants. We would not, even if we could, reproduce here the many valuable practical hints on these subjects which are scattered through the pages of these essays. Those who would profit by them should get the book for themselves, and keep it as a work of reference throughout the year.—*Advertiser*.

The Essays which obtained the Prizes offered by the Geelong and Western District Agricultural and Horticultural Society, for the best practical treatises on the Cultivation of the Vine in this Colony, have just been published in the form of a pamphlet, and constitute an excellent manual for all *vignerons*, whether amateur or professional. The information imparted is grounded upon a thorough knowledge of the subject, and a lengthened experience acquired in the Western District of Victoria. Mr. John Belperoud, to whom the first premium was awarded, has been for sixteen years engaged in the cultivation of the vine at Berramongo, in the neighbourhood of Geelong; while Mr. Pettavel, the winner of the second prize, is also a practical vinegrower in the same vicinity. Both writers concur in the conclusions they have arrived at, and in the general tenor of the instruction they offer, and, guided by their treatises, the merest novice might succeed in this branch of horticulture, and in the production of genuine and wholesome Wine, choice in flavour and pure in quality, and, as such, infinitely preferable to some of the mysteriously-concocted beverages we import.—*Argus*.

Mr. CALDWELL said he had read the Prize Essays, and found them to contain a great deal of very useful information. Mr. O'SHANASSY, in alluding to the remarks made by an honorable member, stated that although he could not pretend to be so skilled in the culture of the Vine as the honorable member for Ararat, he might say that he had read the treatise in question, and had found it to contain much useful information, and likely to be a most valuable assistant to any person who designed to become a vinegrower.—*Debate in Assembly*.

You will be doing the public service by calling attention to the fact, that the Essays of Belperoud and Pettavel may be obtained at most of the Melbourne booksellers for 2s. or 3s. Guided by either of these works, any person can make Wine. Mr. Pettavel's is most in accordance with my views.—BEBERRAO, in *Argus*.

Under the above title, we have been favoured by Messrs. Heath and Cordell with an octavo pamphlet extending to about 100 pages, neatly printed and partially illustrated, which must be regarded as a valuable boon to the horticulturists of Victoria; and from which, we doubt not, South Australian vinegrowers may gain some very useful information.—*Adelaide Farm and Garden*.

WILLIAM WATTS,

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as the seedlings are fit to handle they should be potted off. Never being allowed to remain to be drawn up by crowding and want of air, in the seed pan. They like a soil composed of two parts turfy loam and one part leaf mould, and require abundance of good drainage. As the first flower stems appear they should be picked out to encourage the plants to produce young shoots around the base of the plant, and the plants should be shifted into six inch pots before they get pot bound in their first pots. They may be encouraged to grow after this shift by being kept somewhat warmer and closer for a few days. They will do well in a cold frame where Cinerarias and Calceolarias are grown. Some may be kept on growing by having their flower stems pinched out as they appear, while others may be allowed to flower; thus a succession of flower may be kept up. Some of the largest plants may require to have a third shift into nine-inch pots, but the six, or even five-inch pots will do very well for a large number, and if during the season of flowering, the plants have every week or so, a little weak manure water, they will be all the better for it.

We greatly recommend this most useful plant to those requiring a constant succession of flower in winter, and more particularly when cut flowers are much wanted.

Popular Garden Flowers.

No. III.

Volunteer Auricula.

This lovely plant belongs to that group called "Selfs," or those which have the whole of the belt formed by the marginal lobes of one colour. It is of vigorous habits, producing bold massive trusses of flowers. These flowers are individually large, of a deep *velvety mulberry purple*; the limb flat and even; the white mealy ring around the eye, even, pure, dense, and well proportioned.

The merits of this very beautiful plant appears to have been fully recognised, certificates of a first class having been awarded it by the Royal Botanic Society, and the Floral Committee of the Horticultural Society. It was raised in Scotland by Mr. Richmond.

Lobb's Rhododendron. (*R. Lobbianum*).

To this very handsome yellow Rhododendron, sent from Penang by Mr. Lobb, a first class certificate was awarded in March, 1860, by the Floral Committee of the Horticultural Society, as being one of the finest yellow flowered kinds in cultivation. It is intermediate in character between *R. javanicum* and *R. Brookeanum*, to which latter it was at first thought to belong. The flowers, indeed, with their oblong, refuse, distinct segments, and yellow converging anthers, are those of *Brookeanum* altered in colour, but the entire habit and the foliage agree much more closely with *javanicum*, so that it is really distinct from both.

The plant forms a comparatively slender shrub, with terete branches, scaly while young, and bearing the leaves chiefly on the upper parts of the annual shoots. The leaves are elliptic-lanceolate, tapered about equally to the base and apex, dark green above, paler beneath, both surfaces dotted with small scales, five to seven inches long, and attached by petioles which are fully an inch in length. The flowers form loose terminal umbels, and are large, funnel shaped, below with an expand-

ing limb of roundish, oblong, retuse, spreading segments, which not being overlapping at the base nor widened upwards, have an open space between them.

It is a free growing shrub, requiring to be potted in good peat soil, and to have a liberal share of pot room as it progresses.

Hybrid Tydæas. Tydæa formosa, &c.

These are varieties of the genus *Tydæa* (represented by the old *Achimenes picta*), raised by Parker and Williams, of Holloway, and the result of a cross between the varieties named *Princess Charlotte* and *Leopard* both handsomely spotted kinds. The variety *formosa* has erect growing stems, which continue to bloom in succession upwards, and in this way go on flowering for months. Leaves ovate, having pedicels branched, calyx hairy, with broad leafy ovate lobes, having recurved edges, corolla tube one and a quarter inch, crimson, ventricose below, clothed with red hairs, limb one inch, rosy lake, dotted with crimson, sprinkled with hyaline hairs, stamens four, anthers coherent, stigma bipid. The flowers in *insignis* are larger than in the preceding, light crimson, with intense crimson spots, confluent in longitudinal lines, tube light red, paler and ventricose beneath, clothed with hyaline jointed hairs.

Camellia japonica, var. punicea.

This plant Mr. Moore regards as one of the finest red Camellias in cultivation; it is an old one, and one of many seedlings raised by Chandler and Sons, whilst proprietors of the Vauxhall Nursery, and had been planted out in an unfavourable position in a back corner in their Camellia house, where until lately it had struggled on without producing blooms. The foliage is bold dark green, of a broadly oval or somewhat ovate outline, sharply acuminate, having a glossy surface, and an evidently serrated margin. Flowers full-sized, double to the centre, petals of dense firm texture, smooth and even, cupped in the earlier stages; the flower in this cupped condition being of the richest crimson, and exceedingly bright, so that the other bright red kinds appear dull by comparison.

[The number for July, 1860, of the "*Floral Magazine*," from which we have culled the above notes, is even more beautifully and carefully got up than those which have preceded it; we can scarcely conceive any figures more strikingly truthful, and the letter-press of the author is always intelligible and concise. Our publishers are in expectation of an early supply of the work from its commencement; until their arrival, we shall continue our summary of each number.—*Ed. Gazette.*]

"THE HYDRANGEA HORTENSIS."—This old-fashioned yet favorite shrub, with its glossy dark foliage, evergreen amidst the snow and frost of old England, adorning the lawns of the nobility and the gardens of the rustic, claims the attention of the lover of flowers by its production of splendid trusses of pink blossoms. Chemical processes have been used to change the colour of the flower from pink to blue, and from pink to yellow. Without the aid of any chemical preparation this plant may be made to exchange its natural colour to that of a brilliant ultra-marine tint, in this way:—Take a cutting or unflowered plant; make a compost, one-third decomposed night-soil, one-third peat, and the other rich loam; plant the cutting in it, and the desired effect is certain.

J. M.

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HORTICULTURAL CHEMISTRY.

HYBRIDIZING OR CROSSING.

THE questions arising out of the process of Hybridizing are of very great interest, both in a practical and in a theoretical view. The theorists of the ancient Epicurean and modern Darwinian school doggedly maintain the doctrine of transmutation (by crossing) of one species, such as an ape, into another, such as an orang outang, and that again into a man; or, to take a horticultural example, the transmutation of a crocus into a lily, and that again into a tulip; or, a medlar into a quince, and that again into a pear. Those who are curious to see what has been said on the subject, may consult Lucretius, Darwin's "Zoonomia," and Darwin (the younger) "On Species," published last year; also, a well-known book, the "Vestiges of Creation."

I need scarcely say, that the most non-intelligent gardener would laugh to scorn the man who would try to persuade him that by crossing, a gooseberry bush might be transmuted into a grape vine, or a daisy into a dahlia; yet these transmutations do not seem to be so extravagant as many of the examples in the books referred to. It has long been, and may be now, a notion among the illiterate farmers in England, that wheat grown for successive years in the same field, is partially transmuted into drake; but I never met with a gardener who believed in the absurdity. It will be important, and it is indeed incumbent on me, to state the conditions under which hybridizing may be successful, and the limits beyond which success is highly improbable if not impossible. It will, I conceive, render the principles clearer to begin with examples from animal physiology.

It is now proved beyond dispute, that the blood of one species of animal, such as a horse, will not circulate in the veins and arteries of another species, such as a cow. When the process of transfusing blood was first devised, it was fondly believed that this might be successfully done; but a few trials proved the fallacy of the effects anticipated. Recently, the cause of this failure has been revealed by histology;—for the microscope shows, that the globules of the blood in one species, not only vary in size, but in shape, and, consequently, when they reach the capillary or hair-like blood vessels, they cannot pass; obstruction follows, and the animal dies, from a stoppage in the circulation. This was the invariable result in earlier times when the blood of a lamb was transfused into the veins of women sinking from loss of blood in cases of flooding.

The same precisely is the case with the pollen, or male element of flowers. The pollen-grains vary to infinity in size as well as in shape, as histology proves. We have seen in the preceding number of the "Gazette," that the pollen-grains when shed on the clammy summit of the pistil, do not pass entire down through the tissue to the seed organ, but are chemically acted on by the moisture of the summit, till they burst and send down very fine hair-like filaments, which penetrate the tissue till impregnation is effected. Accordingly, these filaments being of different thickness and different shape in different species, and the tissue itself being of different structure, the passage of the pollen filaments cannot penetrate to the seed organ to effect impregnation; or if they did pass

onwards so far, the same difficulties would occur there, with respect to the nascent seeds.

The success, therefore, of our experiments on Hybridizing, must mainly depend on selecting pollen from closely allied species or varieties, as in the case adverted to in my previous paper of the Florist's Heartsease, from the *Viola tricolor* (usually a small, inconspicuous annual), and the *Viola grandiflora* with its large blue blossoms; or the long oval filbert, mellow in the grain and rich in flavour, from the common small hazel nut of the English copses and the Scottish glens, with the cob nut, which is occasionally cultivated even in these colonies. The microscope might, no doubt, be made available for ascertaining the similarity in size and figure of the grains of pollen of the sorts experimented upon; but it would require considerable skill and experience in the observer, to render it practically useful.

In extending the hybridizing from one hybrid to others, we are very frequently met by the unsurmountable difficulty of barrenness in the plants. One will have the pistil and its summit so imperfectly developed, as to render useless any application of pollen thereto; and, again, when these appear full grown and healthy, the seed-organ may be shrivelled, and the nascent seeds flat and juiceless. These imperfections, however, are by no means so common as that of the anthers being dry and shrunk, containing no pollen-grains for experiment. I have found this very frequently the case with the anthers of the heartsease, sometimes also in the auricula and polyanthus; but much more rarely in the crocus and the tulip. I much regret that a large bed of tulips which I sowed ten years ago with carefully hybridized seed, was left in Tasmania before blooming, and I have never been able to learn the result.

J. R.

Correspondence.

THE CULTURE OF GLOXINIAS.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—As I have been rather successful in growing this beautiful tribe of plants, I think a few words as to its culture may be of some use to some of your readers; and, if you think so, perhaps you can insert this in your next number, as it is time now that some of the bulbs or tubers, which ever learned men may call them, should be started into growth; and by attention to time of potting, we may have some plants in flower during a great portion of the year.

Unless the bulbs are very large, I would pot one of each of several varieties into forty-eight sized pots, (if the bulbs be large twenty-fours will be necessary) into a mixture of the very lightest leaf mould that can be got, having a good deal of silver sand—not sea sand—mixed with it, and plenty of drainage in the pots. As leaf mould is not easily to be got in this country, a good substitute may be got from the forests, by skimming off the surface of the soil where the grass, leaves, and young brushwood may have accumulated in decay for many years. These plants do not like a heavy loamy soil; and I have frequently seen fine bulbs destroyed because the grower did not pay proper attention to this. The bulbs will become black, and decay, if potted in too stiff a soil; and they should never be covered over the crown when potted. When potted off, they should be plunged in a slight bottom heat; and for supplying this bottom heat, nothing is better than a

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dung bed prepared for Cucumbers under a frame, but it should not be above 80° of heat, or hardly that. They must be very carefully watered at first, the soil only being kept just moist, and that is all. If forced into growth by too much heat, the eyes which are on the crown of the root will come out weakly, and never will form good plants afterwards. When the eyes have fairly broken, the plants should be kept pretty near the glass, and should have air in abundance, though they should not be placed in a cold current of air; and on the mornings of warm sunny days, they should be frequently sprinkled with water of the same heat as the atmosphere, as they like a nice moist heat to grow in. When the flower stems appear, the plants should be gradually inured to a colder atmosphere, and may then be removed to a warm corner of the greenhouse. Of course, watering over the leaves must be discontinued when the plants are in flower, and the roots will require to be carefully tended with that necessary element, so as not to allow the leaves to flag at all; but they will never bear stagnant water, as the rootlets that come out from the bulb are of the most slender and tender nature. When the plants have done flowering, they should be gradually dried off in a position pretty much exposed to the sun, not scorched up all at once, but allowed to ripen their leaves; and, finally, when that is accomplished, the soil should be left perfectly dry, and the pots be removed and laid on their side in some warm dry place, until the bulbs are wanted the following season. By potting at different times throughout the year, a succession can be kept up; and the plants ripening at different times, get naturally into the system of growth. I always pot the bulbs in the pot in which they are to flower; but I change the soil every year, and vary the size of the pot according to the size of the bulb. There are many fine varieties, and I saw some good ones both in Melbourne and Geelong last season; but as they are all very pretty, I need not give the names of any of them.

Hoping this may be of use to you, and wishing your paper success,

I am, Sir,
AN OLD GARDENER.

WHEAT SOWING.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—The farmers have had a bad time of it of late, and, I dare say, do not feel much inclined to write about their experience, which is, that most of them feel that unless something be done soon as to protection against the foreign grower, they will have to give up altogether; but, as I intend to stick to it as long as I can, and there are others, who, like me, will continue to grow Wheat, I would like to mention, through your paper, that I have found the Red Velvet Wheat, and a kind that I got as the Red Lamas, stand the hot winds best; and it also grew less than the White Velvet and the White Kent during the rain we had at the end of last harvest, and which did so much injury to so many of us.

I have spoken to a good many, and they all pretty well agree with me with respect to this kind of Wheat; and, as we are now in the sowing time, it may be worth while letting this be generally known. I don't know whether you may think this of sufficient importance to notice in your paper; but I think, if we farmers were to drop a hint to each other in this way now and then, we would be doing some good, and I hope you will accept of this. By the bye, Old Mr. Bankin sets a good example in this way, for, though I don't often agree with his remarks, I read them with pleasure, and wish there were more like him; but the fact is, we can't wield the pen so well as we can handle the plough.

I am, yours, &c.,

J. J. R.

[We shall be glad to hear from our correspondent at any time.—Ed. Gazette.]

Societies.

Horticultural Improvement Association.

THE monthly meeting of this Association took place on the 19th instant, and was very numerously attended. The Vice-President, V. W. Giblin, Esq., occupied the chair. The Secretary read a letter from Robert Marnock, Esq., London, thanking the Association for the honor conferred, by electing him one of the corresponding members; he also stated that D. Bunce, Esq., had placed on the table four hundred packets of seeds, &c., which with the remainder of those contributed by Dr. Mueller, he desired should be distributed amongst the members present.

The following were exhibited on the table by Mr. Bunce, *Aphelandia guesbritzia*, *Poinsettia pulcherrima*, both in full flower; also by Mr. Cain two very large Cabbages, perfectly sound; by Mr. H. Adcock, a one year old Peach tree, and a large seedling Rhubarb ten months old.

Several new members were proposed, and the business of the evening commenced by Mr. Brewster reading the following paper on "*Pruning in General*," illustrating his remarks practically on the Peach Tree of Mr. Adcock:—

Gentlemen,—I have endeavoured to put some general practical ideas together in the form of a short paper, to initiate discussion on what I conceive to be the proper modes of pruning the different varieties of fruit-bearing trees. I have had some thirty years experience with regard to pruning in general, and though the pruning of thirty years since is somewhat different from the pruning of the present day, I have, by careful observation, and by reading whatever was new on the subject, contrived to keep pace with the times as far as regards the matter under consideration. I would first state that I find it more difficult to explain how I would prune, than actually to perform the operation, and I do not expect my observations to be so clear as I could wish, as almost every variety requires a different kind of treatment, and the treatment varies also with the various situations, qualities of the soil, and other circumstances in connection with the growth of the trees.

Some varieties of the Apple such as the Lord Nelson, the Emperor Alexander, and most of the Codlins, grow stronger than the Rennets, Russets, Nonpareils, &c., the latter incline more to spur bearing than the former, and will not generally produce such long-jointed coarse wood. Trees, one year from the graft, or two from the bud, which I consider preferable for planting to older ones, should be headed down according to the height the stem is wanted, and for my part I prefer all fruit trees on the dwarf principle, viz., with a stem of about a foot or eighteen inches long, especially in this Colony, subject to high winds and gusty storms as it is. I allow the tree to have four or five top eyes to form the future head. At the second year's pruning, the leading branches should be cut back to from a foot to eighteen inches from the stem according to their strength, so as to make them throw out more branches, spurs, and fruit buds for the next year, for I have found these latter produced on many young trees in the colony. The third year's treatment, should be similar,

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cutting in the leading shoots towards the branches from which they take their source. If the tree incline to the production of too much wood, cut out the two top shoots, and allow the third to be the leader, shortening them according to their strength, to produce spurs and fruit buds, that the tree may be covered with them from the stem to the points of the branches. My experience is, that trees should always be kept thin as to branches, and open in the centre to admit plenty of sun, light, and air; and trees treated in this way will produce finer fruit, better flavoured, and more of it, than if left thick.

Similar treatment should be continued throughout the growth of the tree, until it gets old, when the saw must be used to take away some of the old branches to be succeeded by new wood from the stem, thus will the tree be improved in growth, and the fruit continue of first quality.

In the treatment of the Cherry and the Pear, similar principles to those already stated may be adopted with every prospect of success.

I would recommend that the Peach should be treated in a similar way for the first two years, after which, as the fruit is produced on the young wood instead of spurs, it requires a good deal of the knife, both for the removal of the old wood, and to make room for the young fruit bearing shoots; and these too should be shortened according to their strength to from six to eighteen inches, and the tree should be kept open in the centre.

The Apricot should be treated in the same way for the first three years, after which much of the knife is not required, as this tree bears on spurs, and does not generally produce wood so abundantly as the Peach. The strong growing shoots and a branch now and then will only require attention so as to regulate the growth of the tree, and prevent its becoming so crowded as to injure the fruit by non-exposure to the air in abundance.

In planting young trees, I would only remove portions of bruised roots, or long roots without any fibres on them, as I like plenty of young rootlets. Some make a point of drawing the knife to them in cutting, and some of cutting from them, alleging that this is of importance, but I place little faith in either practice. I would only warn pruners in cutting to them, to have their left hand below the knife, or they might remove the point of a finger, which is even worse to put on again than a roughly pruned off shoot.

I might have said something as to the pruning of other trees, but I may return to the subject again, in the mean time I thank you for your attention.

In explanation of his practice of pruning, Mr. Brewster recommended cutting back some six inches, and so pruning that the tree would properly form itself, not close and bushy, but open, admitting free circulation of the air, thus preventing the injury often inflicted by hot winds, &c. Peach trees, of five and six years, at all times require lopping, and in order to keep the tree in figure, he would not have above three or four of the heavier shoots with about five eyes for budding and fruit; the young shoots by drawing the sap up make the tree heavier. In cutting back roots, much depended on circumstances,—the longer and stronger the roots the better, as the tree grew faster and more fibrous.

Messrs. Down, Adcock and Myles discussed the modes of cutting by slanting the knife upwards. And Mr. Adcock extolled the cimeter as the best pruning instrument; he thought Mr. Brewster practically contradicted his expressed opinion, the more root the better, by cutting six inches; surely there ought to be a certain proportion between the root and the top, for a small root with large top had necessarily great demand made on it for supply, reminding him of a man with many creditors who had but small funds in the bank. He thought one and two year old trees were the most suitable for planting, for though small they come to bearing sooner, and were thus of more service than larger ones.

A member considered that a great mistake existed in reference to Standards, the trees should be as near the ground as possible, being thus shielded from the terrific gales which swept over them in winter and summer. Five and six year Peach trees, in order to bear, require more thorough pruning than any other tree, and the want of such was seen every season on the poor and miserable Peaches which were to be found in gentlemen's gardens.

Several other members expressed their opinions, and the treasurer remarked it was judicious in pruning back, to look out for three or four good eyes, and cut thereby. Mr. Brewster then replied generally.

Mr. Bunce next read his paper on the "Planting of Trees in Towns," which he said had been written by him at the instance of the Newtown-cum-Chilwell Council:—

Mr. Chairman and Gentlemen,—A short time since I was called upon by the Chairman of the Newtown cum Chilwell Municipality to furnish some experimental information on the subject of Planting Trees in the town and neighbourhood of Geelong, and the kind of trees best adapted for the purpose.

Upon maturely considering the subject and its great importance, I deemed that the best course to be adopted to give it greater publicity would be to ask permission to read a paper at the monthly meeting of the Horticultural Improvement Association of the Western District, whose rapid progress since its organization at the commencement of the current year, has perhaps no parallel in this Colony, and must prove a source of the greatest satisfaction as well to its original founders as to those gentlemen who have so handsomely come forward and given it their support on subsequent occasions. My object is not, however, to treat on the movements of this Association, although I feel the warmest feelings of sympathy for its ultimate success, and I will consequently now confine myself to the subject of the paper before the meeting.

The first thing that strikes the visitor to Geelong is the almost total absence of trees, not only in the immediate neighbourhood of the town, but for many miles around, and to remedy this defect, and so supply what is so great a desideratum as a matter of health and ornament, appears to be the object sought to be obtained by the inhabitants of New Town and Chilwell, and which it is my pleasing task, as far as lies in my power to enable them to accomplish.

Before commencing the practical part of the subject, I may be allowed to make a few remarks on the difference of the two localities of Melbourne and Geelong. At the former

Fruit Trees. Vines. Shrubs.

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Victoria Terrace, Feb. 8, 1861.

place, Mr. La Trobe, who possessed a large share of taste, and on all occasions evinced the tenderest regard for that town, made it a *sine qua non* that no trees should be touched unless they could be well spared. The consequences are, the lovely avenues which meet the eye in whatever direction the metropolis is approached.

Another great advantage is the shelter afforded to the exotic forest trees, which have from time to time been introduced. Melbourne has also immense advantages over Geelong in the shelter afforded by the valley of the Yarra Yarra river and its tributary creeks and gullies.

In my choice of trees for planting in the town, I shall commence with the kind with which Dr. Mueller, in his very able letter to the Newtown Municipality, on a similar subject to that on which I am now addressing you, left off, namely, the Blue Gum: in my opinion there is no tree equal to it in regard to shelter or rapidity of growth, provided it is moderately sprinkled with the kinds I am about to enumerate, at the rate of one Blue Gum to three of the other kinds. The broad-leaved Elm or Wych Elm I have found to be one of the quickest growing of the deciduous class; Black Poplar, Oak, Ash, American Gleditschia, Locust tree or Robinia Pseudo Acacia, Maple, the Oriental and American Plane, &c.

These are all the kinds of a deciduous class that I would recommend, and would form an agreeable variety, if judiciously intermixed with evergreens, of which I would recommend the following:—Blue Gums, Silver Wattle, of Tasmania; Pinus insignis, Pinus excelsa, Abies Douglessii, Cryptomeria Japonica, Pinus pendula, and Araucaria excelsa. This will, I think be a sufficient variety for that planting; and from the great success attendant upon the trees planted by me for the Geelong Corporation three years since, I think I may safely recommend that the same system be followed in future plantations.

I will now bring my paper to a close, by recommending the kinds most adapted for Grouping in the large open spaces of land surrounding the town of Geelong, selecting as a matter of course Evergreens. For single trees—Araucaria imbricata, A. Excelsa, Cedar of Lebanon, and Cedrus deodora. For Grouping, those just named, including Pinus insignis, Pinus excelsa, Cryptomeria Japonica, Pinus pendula, the Araucarias, Cupressus torulosa, Cedrus elegans, with the Hemlock and Spruce Firs, Pinus Sylvestris, and Pinus Austriaca. I have mentioned these kinds which are likely to be easily obtained from the Nurseries, and as being of various habits of growth, and for harmony of colour. A short time since I visited the splendid establishment of J. H. Brooke, Esq., at Heidelberg. This gentleman, under the skillful management of his gardener, Mr. Ferguson, has been aided in raising a very large stock of these plants, and he may be said to possess the largest number of Conifers of any establishment in the colony. Some of his trees which had been planted last year and the year previously had made leaders a yard in length. This was particularly remarkable with the Cryptomeria Japonica. There is no doubt that the situation, being in one of the sheltered valleys of the Yarra, was in its favour as compared with Geelong. I mention this because I have never yet seen in any of our gardens

a healthy or vigorous growing plant of the *Cryptomeria Japonica*. In the hope that these remarks may answer the purpose desired, I will conclude by thanking you for your attention, and in the expectation that at our next meeting some gentleman will contribute a paper on this or some kindred subject.

The discussion of this subject commenced by the Chairman expressing the great interest which he felt on the subject; seeing that Geelong presented both space and features eligible for the formation of umbrageous promenades. For instance, from the top of the hill direct towards the Barwon Bridge. The Corporation in thus expending a portion of their funds would confer one of the greatest blessings on the town; of course they would not derive any benefit, but other generations would enjoy it, and gratefully remember the promoters of a desideratum, next to the Botanical Gardens. Notwithstanding the objections urged against the Blue Gum, he from his knowledge of the tree in Tasmania, could assure them that while in gardens and confined spots it became stunted and a prey to the caterpillar, if planted on due space, it would become a very large tree in 8 or 10 years, invulnerable to the attacks which were now considered fatal to it.

Mr. Middlemiss mentioned the common Gum as superior to the Blue Gum for shade and shelter, also the *Ailanthus glandulosa*, of India, recommended as food for the silkworm of Japan, a fast growing tree of handsome foliage, large and suitable for shelter and ornamental purposes; he also named the ornamental and the common Sycamore trees as growing luxuriantly, together with the Cluster Pine and Fire tree of New South Wales, which he considered admirably adapted for the purpose referred to.

The Treasurer proposed Thomas Moore, Esq., Curator of the Botanical Gardens, Chelsea, as a corresponding member of the Association, who was at once unanimously elected. He added that no one else rising to propose a subject for the next meeting, he would promise one without being able at present to name it.

Mr. Batson subsequently promised a paper on "Vine-pruning."

Ballaarat Agricultural Society.

The Annual Ploughing Match in connexion with this Society took place on the 6th instant, in a paddock belonging to Mr. Rae, on the road to Coghill's Creek. There was a fair attendance of spectators, but the number of competitors fell far short of the entries at the match of the previous year, only some twenty-eight teams having entered into competition, and of this number three were bullock teams; but a variety of circumstances accounted for this, the out of the way locality chosen for the match, in consequence of which, the Society had determined to hold another ploughing match at Burrumbeet, on the 12th June; and the porpinqity of the ground to Glendarnel, which has a society of its own. The committee, however, availed themselves of the best ground offered, so that no blame is to be attached to them; but it was uneven, very dry, intersected in many parts with the roots of trees, and was altogether ill adapted for a ploughing match. The judges had been selected from various districts, but their awards did not give general satisfaction.

Independent of the 16 prizes offered by the Society, Mr. Joseph Gray, saddler, Armstrong-

Queensland.

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street, offered a pair of the best Scotch hames, with leather fittings, for the best break on the ground; Mr. Grant, saddler, of Sturt-street, also offered an extra prize, consisting of two pairs of Scotch bridles, one for the best kept harness, and the next for the boy's best finished land.

The first prize was awarded to John Mines, who held a plough manufactured by Mr. Grant, belonging to Mr. J. Ogilvie. The other prizes in the majority of cases were awarded to ploughs manufactured by Mr. Tynan, of Sturt-street. It is deserving of notice, however, that the ground allotted to the winner of No. 1 prize was much better adapted for a trial of skill than the ground which the most of the other competitors had, a circumstance that was observed by the majority of persons present. The various teams started precisely at 10 minutes past 10 a.m., and the bullocks were the first to finish. The extent of ground which each had to plough was the one-third of an acre in two lands gathered up, the size of the furrow being 4½ to 8 inches; each of the teams was to finish, the horses at half-past two o'clock, and the bullocks at three o'clock, but the whole of them had ploughed their allotment previous to the given time.

In class A, in which 22 ploughs competed, the 1st prize, the Society's gold medal and £5, was awarded to John Mines; 2nd, £6, to J. McKerrow, ploughing for Mr. C. Allen; Mr. Gray's extra prize, for best break, was awarded to Mr. John Mines.

In class B, for boys under 18 years of age, only three ploughs started. The first prize of £4 was won by Charles Cullip, ploughman to Mr. Tyson; Mr. Grant's extra prize for best finish, was also awarded to him.

In class C, bullock teams, 3 competitors, 1st prize of £5, won by Archd. McDonald, ploughing for Mr. Andrew McLean.—*Star*.

The second Ploughing Match in connection with this Society took place at Burrumbeet, on the 12th instant. The number of entries was not so great as at the previous match, but the ploughing was the best that has as yet been performed in the district, a circumstance which may be attributed chiefly to two causes, viz., the favourable nature of the ground, and the improvement which has of late years taken place in ploughs. One circumstance connected with this ploughing match is deserving of especial attention: in every instance, with one exception, the ploughs that were held by the successful ploughmen were of local manufacture. Our plough makers seem to have completely driven the "foreigner" from the field in a fair and open competition; the judges being strangers to the locality, and without any possibility of ascertaining who were the makers of the several ploughs in competition. One prize alone was awarded to a plough made by Grant, and in every other instance the prizes were awarded principally to Tynan's ploughs, while Mr. McGrath, of Burrumbeet, and Mr. Frazer, of Learmouth, who, latterly, have been paying some attention to the manufacture of ploughs, had prizes also awarded to ploughs that passed through their hands.

Nineteen ploughs started in class A. Horse teams. 1st prize of £6 and Society's medal, won by Thomas Garr, ploughman.

The second prize of £6 was taken by John McKerrow, to whom was awarded the extra prize of a plough, given by Mr. A. C. Kerr, for the best ploughman.

In class C, bullock teams, there were five competitors, William Haig taking first prize.

The judges considered the work done by the bullock teams remarkably good, superior even to that of the horse teams. The proceedings wound up with a dinner, at which, the President of the Society, Charles Seal, Esq., presided, and in the course of the evening, the subject of holding a champion ploughing match after the other matches

had terminated, was mooted, and Mr. Tynan promised to give a plough, and Mr. Frazer a pair of harrows, as prizes, should the event come off.

Horticultural Society of Victoria.

The monthly meeting of this Society was held on the 5th instant, when the schedule of prizes for competition during the ensuing season, as revised by a sub-committee, was laid upon the table, and ordered to be printed by the next monthly meeting, when it would be finally approved. The Hon. Mr. Power, who had formed one of the deputation which was appointed to wait on the Chief Secretary, reported that hopes were held out that the Government would favourably consider the claims of the Society to have placed on the supplementary estimates a sum of money in aid. The committee of superintendence of the Horticultural and Experimental Gardens reported that the grounds in the Survey Paddock had been securely fenced, and eleven acres cleared, also, that a cottage had been erected for the foreman, with a committee-room attached, and that the trenching was being proceeded with vigorously. The amount of money expended up to the present time was £490. On application to Dr. Mueller, the society received a very valuable collection of trees, plants, and shrubs for ornamental purposes from the Botanic Gardens; and the committee trusts so good an example will be followed by all parties having any new, useful or rare plant at their disposal.

Port Phillip Farmer's Society.

The first Ploughing Match this season, in connection with the Society, took place on the 7th instant, at Campbellfield, a short way from the Plough Inn, and was well attended by persons interested in such matters.

The ground was not first-rate, or calculated to call forth the resources of the competitors, but it had been chosen on account of its central situation.

The ploughing commenced early; to each man was allotted sixty-three perches, or nearly half-an-acre, and the time allowed for ploughing was at the rate of twelve working hours per acre. Twenty-three ploughs entered, and about three o'clock the last furrow was finished, and the Judges shortly after commenced their inspection of the work, of which it was remarked on all sides, that never was there less irregularity exhibited, or finer horses employed at any previous show.

The awards were, about five o'clock, made known by Mr. Skilling, the Secretary of the Society, and were as follows:—

First prize, of £8, to James Grady, of the Experimental Farm. Plough of G. Grant's manufacture.

Second prize, of £6, to David Clark, in Mr. Cochran's employ. Plough of Sellars and Son's manufacture.

Third prize, of £4, to James Templeton, of the Experimental Farm. Plough of G. Grant's manufacture.

Fourth prize, of £2, to John Yuille, in Mr. A. Gibb's employ.

Fifth prize, of £1, to Henry Coltherd, in Mr. J. F. Boadle's employ.

Two prizes were offered for the best ploughing by boys, under 18 years of age, for which there were four competitors. The first silver medal was awarded to Charles Creighton; and the second to Alexander Huttie, who, the Judges stated would have taken first prize, but for his irregular finish.

The first silver medal for the best team of horses, was awarded to Messrs. J. & M. Mackintosh, and the second to Mr. Maconochie.

STEAM CULTIVATION.

We are always anxious to lay before our readers any reliable testimony as to the working, or any improvement in the manufacture, of Agricultural Implements, of the value of many of which our agriculturists are day by day becoming more convinced of. The following letter on Steam Cultivation, read at the Central Farmer's Club Meeting in London, by Mr. Mechi, is one of great interest, and there will be doubtless many valuable hints skimmed from it.—[Ed. G.]

Stevington, near Bedford,
31st December, 1860.

"Gentlemen,—I very willingly send you my views and opinions upon the Steam Cultivator. Before I came into Bedfordshire I farmed in Buckinghamshire, when I knew the land of Mr. Smith, of Woolston, and having witnessed the great improvements he subsequently made by his system of Steam Cultivation, I was induced to order a set of the apparatus from you, in the spring of 1858. I have now worked my apparatus for three seasons, and having done upwards of 2000 acres of land with it, I am in a position to speak with some confidence as to its success. The effect on the crops has been very visible each season, but I think the greatest advantage was manifest last harvest. My wheat crop was particularly good, which, after so much wet, I had no right to expect on such heavy land; but I find after steam cultivating, the water gets down to the drains so much quicker, indeed I have now dispensed with the furrows altogether; one field, which is rather steep, containing fifty acres, all lays on the flat, and I never saw any water stand upon it, although the land is very stiff.

"My farm, belonging to the Duke of Bedford, contains about 370 acres of arable and 130 acres of grass land. I formerly worked fifteen or sixteen horses, but since I have got my Steam Cultivator, I have managed with seven or eight, and have always been much more forward with my work than when dependent upon my horses; indeed I should be very sorry to farm this strong hilly land without steam power. I am also enabled to grow a much larger acreage of root crops with a heavier yield.

"The present season proving so excessively wet, has prevented me doing as much work as I should have done, still I am very much forwarder with my work than I could have been with fifteen horses to keep. I have 75 acres of wheat looking remarkably well, some of which would certainly not have been sown had I not had the Steam Cultivator. I have also put in my tares with the Steam Cultivator; on account of the wet, I sowed them on the stubble before breaking it up; they promise better than those around me, put in in the ordinary way. I therefore entirely disagree with people who entertain the notion that a Steam Cultivator is of little use in such wet seasons; I have found it exactly the reverse. I have also broken up and crossed my wheat stubbles, intended for roots and mangolds, and, notwithstanding the wet, I have made a good job of them. I usually bout this land in 27-inch ridges, as I think it lays drier and sweeter for the winter, but the backwardness of this season has prevented me. My clover leys I broke up just before harvest, and as usual made a bastard fallow of them. From long experience on clay land, I am convinced that this system is a surer mode of securing a good wheat crop than leaving your clover ley down until Michaelmas: it also has this advantage, the work of the farm does not fall in so much at one particular time. My tare land was broken up before I commenced the clover leys. Upon my bean stubbles, in an ordinary season, I use my Steam Cultivator only once, merely harrowing once before and once after the drill. Last year I cultivated sixty acres of bean stubble in this way, upon which I had most excellent crops of wheat. I kept an accurate account of the cost of preparing this land by steam, and found that for labor, fuel, &c., it was exactly 4s. 7d. per acre.

"I have no interest whatever in extending the use of the Steam Cultivator, but feeling obliged to Mr. Smith and yourselves for enabling me to cultivate my own land cheaper and better, I have thrown open my farm to all comers, and, in addition to many from distant counties, it has afforded me pleasure to find some of my neighbors following my example; for when I commenced, very few thought I was acting wisely in making so great an outlay in what they termed 'an experiment.'

"In Mr. Dring's letter, I notice he says that he finds setting down to a large piece is a mistake; I think it is a mistake to set down to small pieces. I have one field of 36 acres, which I break up without going into the field at all; I put the engine and windlass in an adjoining field, and finish headlands, and all without shifting either engine or windlass. I have another field of fifty acres, in which I have dug a pond at one end, and I set the engine and windlass against the pond, and cultivate the whole without shifting or requiring a horse a fetch water. I sometimes dam up a drain or ditch, and obtain water in that way, for in a wet season water carting is a great nuisance. I have increased the length of my ropes to enable me to do these large fields; I expected it would take more power, but I don't find it makes much difference to my engine, which is one of Clayton & Shuttleworth's eight-horse double cylinder. I was always told—'Don't get too much rope out: you will want so much more power.' I am no engineer, and cannot go into the reasons; but I find from experience that the length of rope makes very little difference to my engine.

"As before stated, I have now done with the Steam Cultivator upwards of 2000 acres of land, and my rope, although the worse for wear, is still in working order, the other portion of the apparatus is very little the worse for wear. I am convinced, that if people will attend to the coiling of the rope, and exercise moderate care, the rope will last for years. I am sure the expense of keeping the whole in repair is not nearly so much as the repairs of a steam thrashing-machine.

"I prefer the engine and windlass separate, as they are more easily moved from field to field, and along bad roads, than the combined engine and windlass I had on trial.

"I don't think much will be done in letting out Steam Cultivators, as the expense and trouble of haulage is so much greater than with Thrashing Machines; I speak from experience, as I have let out both, but have given over letting out my Steam Cultivator; indeed, I have 90 days' work a year for it on my own farm.

"I am, Gentlemen, yours truly,

"WILLIAM PIKE.

"Messrs. J. & F. Howard, Bedford."

COLONIAL PICKLES.

Happening some time back to drop into the snug little skilling of a very industrious market gardener, we saw on his table a small dish of Pickles, certainly dark in colour, but which on taking the liberty to taste, we found to be remarkably crisp, and of excellent flavour and quality. The vegetables pickled were a mixture of fresh beans, small onions, cauliflower, and sliced cucumbers. "I thought I would try a little speculation," said our friend, "my ground had produced me more vegetables than I could dispose of in the market to any advantage, and it struck me that if I converted some of them into pickles the thing might answer. I went into town and bought a cask of the very best vinegar I could get hold of. My wife I knew was clever at all sorts of things of this kind, so to work we went preparing the vegetables by cutting, soaking, salting, and making them ready for the vinegar. We took a deal of

trouble, but by and bye we had about forty gallons of as fine pickles as ever were eaten in this world. Well, Sir, the vinegar cost me two shillings and three pence a gallon, the ginger and spices another threepence, and the vegetables say another shilling, of course reckoning them to be my own growing. This made three and sixpence a gallon cost to me, without the labour, which I did not reckon in. Would you believe it, sir, I have offered these pickles in large or small quantities, or in any quantity to the storekeepers, but although they acknowledge them superior to anything they sell, still they refuse to buy them, because they are done in good brown vinegar, and because they are not in bottles with pewter tops and gay coloured labels. I was offered by one man forty shillings for the whole, which at cost price was worth rather over three times this sum. You won't catch me again going into pickles as a speculation. Nothing but Mr. Batty, and bad vegetables, soaked in diluted sulphuric acid, is good enough for the people out here. We felt sorry at our friend's mistake, but could not help acknowledging that many other as good attempts at Colonial manufacture had failed in like manner.

THE POTATOE DISEASE.

The Potato disease may be said to have perplexed the wisdom of philosophers, and to have baffled the skill of practical men. It has, however, been recently and satisfactorily demonstrated, by microscopical examination, that the malady which has so seriously affected a very important article of food, is due to the deposition by the atmosphere of a minute Fungus, which, taking up its habitation first upon the leaf and the haulm of the Potato plant, propagates with astonishing rapidity, and ultimately finds its way to the tubers and completely destroys them.

Having at first, without a knowledge of this theory, tried successfully an experiment which I have since found to entirely accord with it, I am anxious to place my experience before the public, satisfied that if they follow my example they will profit by the result.

Last season, I departed from the old system, so far as the greater part of my crop was concerned, and pursued the following plan:—I set the Potatoes in double rows, instead of single; the two rows occupying about a foot; a foot of vacant space remaining on the outside of each row. They were planted upon the level ground, and hoed up at the usual time.

When the haulm had reached its full growth, about the 1st of July, I turned it over, right and left, towards the vacant spaces, by adding earth between the rows and pressing down the haulms, so as to prevent their retaining an erect position, and to allow the rain falling upon them, instead of descending to the roots, to fall upon the vacant space.

The kind of Potatoes upon which I experimented were "Regents" and "Flukes." Of the former, I planted one portion upon the old system, and a larger portion upon the new; the "Flukes" were all planted upon the new system. The land consists of a heavy clay—about as bad a description of soil as can be devoted to the growth of a Potato crop.

The result was, that the "Regents" planted upon the new system turned out to be a good crop, while those upon the old plan were a complete failure, although grown upon the same plot of ground, and planted at one time from the same seed. The "Flukes" produced an excellent crop, not two in a hundred being bad; while my neigh-

bours, for miles round, without exception, lost their crops.

The efficacy of this system has been proved, not alone by my own experience and that of several others who have tried it, but has been confirmed by the following curious circumstance:—A gentleman who had planted a lot of Potatoes, having a number of planks which he required room for, but not knowing how to dispose of, he allowed them to be thrown down upon a part of the Potato bed. Upon removing them some time afterwards, and digging the Potatoes—fully expecting to find that those which had been covered and pressed down were completely destroyed—he found, to his surprise, that those which the planks had lain upon were in excellent condition, while those that had been exposed in the ordinary manner were diseased. The laying down of the planks had, in this instance, effected the turning of the haulms, and sheltered the tubers from the wet; and the result was as good as if the system I have recommended had been carried out by design.

The success of my experiment is to be explained in this manner:—A microscopic Fungus is first deposited upon the leaves and the haulm, where it multiplies by millions; as soon as rain descends, these parasitical plants are washed downwards to the tubers, which they immediately attack, and the Potatoes are thereby completely destroyed. By turning down the haulms over the vacant spaces, the Fungi are washed by the rain from the plant on to the naked soil, where, wanting nutrition, they perish, and the tubers are protected from their destructive effects.

The result of my experiments being therefore entirely in accordance with the investigations of science, I feel anxious to make the new system of Potato-growing known, feeling assured that it will prove a great boon to the community at large.—*Gardeners' Chronicle* (London).

THE MALLEE PHEASANT.

(From the Pioneer, Mountain Creek.)

The Lowan, the native name of this beautiful bird, is an inhabitant of the dense scrub that covers a great portion of the banks of the river Murray, and extending on the northern side of that magnificent stream to a considerable distance. Belonging to the order of the *gallidæ*, the mallee pheasant approaches in size to that of the guinea-fowl. Of the same colour, and resembling in appearance the British partridge, although exceeding the latter bird by about four or five times in bulk, its habits are so peculiar as to attract the attention of the traveller who may happen to view the bird in the gloomy solitudes it frequents. Its native name is derived from the plaintive cry it utters when disturbed, by the footsteps of strangers, resembling in sound to the low booming of the bittern. In the interior of the dense scrub the nests of these birds are very numerous, and have been known to contain when opened from 10 to 25 eggs. The latter are about three times the size of an ordinary goose egg, and of a pink colour; and the extraordinary method adopted by the parent bird to bring its brood to maturity is only exceeded by the curious formation of the nest. The formation of this curious structure consists of a quantity of dry twigs and grass, carefully placed in the interior of a cavity, about two feet in diameter, previously hollowed out on the surface of the ground. On this the parent bird deposits her eggs in an upright position, the small end downwards, keeping them in position by scratching around the sand and gravel previously thrown out from the body of the nest; after laying her complement, the eggs are totally covered up, the nest at this time having the appearance of a large ant hill, about 6ft. or 7ft. in circumference, and 3ft. high; they are left to be hatched by the heat of the sun's rays; the male and female alternately uncovering a

portion of the nest in the middle of the day, allowing the heat to penetrate more fully its covering. Each evening the sand and gravel are carefully replaced, the eggs are thus protected from the night dews. After a lapse of 20 or 21 days, the young may be seen, like those of the common partridge, making their exit from the nest with a portion of the shell still adhering, and at once set up in business for themselves, the parent bird taking no further trouble in their education. The food of the Lowan consists of the seeds of the numerous species of heath that abound in the scrub, insects, grubs, &c. The eggs are very palatable, and are so large that one will form a tolerable breakfast to a hungry bushman. The blackfellows in the neighborhood of the Mallee scrub subsist greatly during one portion of the year upon this dainty of the wilderness. The Lowan is well worthy the attention of our breeders of domestic fowls, several instances having come under my personal knowledge of their having been artificially hatched and reared to maturity, their extraordinary fecundity equalling that of the ordinary domestic fowl; the flesh of this bird being very delicate, the number of eggs it lays during the season would render it a valuable addition to a colonial barnyard.

The next number of the "GAZETTE," will be published on the 19th of July.

SUBSCRIPTIONS received since our last issue:—

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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 8.

JULY 19, 1861.

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AGRICULTURAL AND HORTICULTURAL
SOCIETY.

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OF THE
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- " 4.—Preparation of Soil and Mode of Planting.
- " 5.—Pruning. (This chapter is illustrated with numerous wood engravings.)
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- " 8.—Ditto (continued.)
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- " 10.—Vintage.
- " 11.—Cellar, Storage, Racking Wine, &c.
- " 12.—Varieties of Vine cultivated in Australia.

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- Chapter 1.—Trenching and Terracing, from "Maro's Letters on the Vine."
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The following are Extracts from the Opinions of the Press:—

We have received a copy of the two Essays upon the
Cultivation of the Vine in Victoria which were awarded the
Prizes, amounting to one hundred and fifty guineas, recently
offered by the Geelong and Western District Agricultural
Society, for the best Treatises on the subject. They comprise
a variety of valuable information with reference to the treat-
ment of the soil for the cultivation of the Vine, and also treat
very fully of the manufacture of Wine from the grapes
produced. The essays are published in a very convenient
form by Messrs. Heath and Cordell, of Geelong, and their
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guide to intending cultivators of the Vine in Victoria. We
trust that the publication of these essays may, in the words
of the preface, "be the means of imparting fresh vigour to a
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national boon."—*Herald*.

The two Essays before us have each their peculiar excel-
lencies. That by Mr. Belperoud contains a description of
seven of the existing vineyards, enters deeply into the question
of aspect and soil, and is very copious respecting the treat-
ment of Wines. That by Mr. Pettavel is the most explanatory
respecting the treatment of the soil and the management of
the plants. We would not, even if we could, reproduce here
the many valuable practical hints on these subjects which
are scattered through the pages of these essays. Those who
would profit by them should get the book for themselves, and
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The Essays which obtained the Prizes offered by the Geelong
and Western District Agricultural and Horticultural Society, for
the best practical treatises on the Cultivation of the Vine in this
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rists of Victoria; and from which, we doubt not, South
Australian vinegrowers may gain some very useful informa-
tion.—*Adelaide Farm and Garden*.

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plan.
- Lot 5—Fitzroy-street, 50 feet frontage x 145 feet, being lot
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72, Moorpanyal.
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TABLE II.—ABSTRACT SHOWING THE GROSS PRODUCE OF EACH DESCRIPTION OF CROP IN EACH COUNTY AND PASTORAL DISTRICT OF VICTORIA.

COUNTIES AND PASTORAL DISTRICTS.	CORN, PEASE, AND BEANS.										GREEN CROPS. (exclusive of Market and Kitchen Gardens.)					HAY.		OTHER CROPS.				
	Wheat.	Oats.	Barley.	Maize.	Rye and Bere.	Pease, Beans, and Mung.	Total.	Potatoes.	Turnips.	Mangel Wurzel.	Beet, Carrots, and Parsnips.	Cabbage.	Total.	Cereal Grasses: Wheat, Oats, and Barley.	Rye Grass, Lucerne, &c.	Total.	Onions.	Tobacco.	No. of Vines.	Fruit Sold.	Wine Produced.	Brandy Manufactured.
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Cwt.	Cwt.		Cwt.	Gals.	Gals.
Anglesey ..	8,285	6,944	473	30	83	2,738	891,701	212	468	4,414	602	771	214	833	19	852	185	85	1,352	25	73	120
Bourke ..	491,880	381,336	1,461	1053	66	2,738	891,701	212	468	4,414	602	771	214	833	19	852	185	85	1,352	25	73	120
Dalhousie..	266,065	589,727	2,302	316	66	1,618	860,125	7,340	139	200	39	30	7,749	10,272	6	10,278	178	12	13,116	12	2,896	
Dundas ..	24,851	6,540	749	641	..	293	32,118	161	181	6	..	..	170	970	91	1,001	447	..	902	..	..	..
Evelyn ..	35,501	23,421	312	..	..	..	59,868	3,125	181	130	23	..	3,312	909	5	914	..	..	229,421	..	..	..
Follett ..	540	1,107	94	..	..	..	1,741	24	..	..	..	..	24	185	..	185	..	..	160	..	..	..
Grant ..	496,799	263,726	206,774	1319	206	2,785	785,513	7,278	389	5,787	809	35	14,300	16,322	60	16,382	781	125	1,333,411	315	8,132	140
Grenville ..	81,059	100,797	2184	200	..	94	181,634	3,196	107	194	92	83	3,073	7,089	10	7,099	375	110	52,130	24	2	..
Hampden ..	42,181	20,877	1003	..	..	228	64,289	1,023	12	51	16	3	1,105	1,158	24	1,183	60	150	4,000	..	..	..
Heytesbury.	64,186	5,815	1883	100	..	158	72,142	1,165	10	52	..	..	1,227	238	3	2,411	..	..	800	..	..	..
Mornington.	44,156	25,697	638	1082	166	349	72,088	1,787	50	210	7	249	2,341	1,101	122	1,233	691	..	75,745	35	131	..
Normanby ..	87,592	20,654	2054	346	215	15	110,876	1,496	291	105	2	2	1,335	1,981	44	2,025	20	54	3,790	10	..	..
Polwarth ..	58,821	18,078	957	20	..	79	77,955	466	7	30	14	..	505	534	31	568	155	100	6,000	..	..	..
Ripon ..	208,665	229,415	2159	..	..	167	410,706	4,160	61	392	123	62	4,798	10,905	11	10,916	134	1	10,480	30	..	..
Talbot ..	682,089	655,013	7757	147	32	487	1,345,525	14,183	233	875	268	112	15,674	17,525	96	17,622	1432	1	183,202	..	..	..
Villiers ..	529,300	61,414	14461	..	..	2,120	607,295	8,552	236	601	36	25	9,451	4,069	71	4,143	414	160	19,842	..	..	..
Gipps Land	42,907	21,333	1708	492	665	168	67,273	1,722	69	102	13	2	1,908	715	132	847	..	..	1,859	40	..	..
Loddon ..	100,370	88,911	4516	594	102	174	194,698	541	252	199	173	509	1,675	22,687	85	22,722	876	..	23,474	1016	282	..
Rodney ..	12,301	8,502	1095	12	..	117	22,027	65	..	5	..	1	71	1,573	..	1,573	60	..	3,600	23	10	..
Murray ..	176,359	92,758	2382	18628	155	291	290,526	972	192	..	20	4	1,190	6,543	..	6,572	65	..	8,450	3	110	..
Wimmera ..	2,213	4,290	814	12	..	60	7,389	66	..	10	..	..	76	2,331	..	2,331	..	..	1,010	19	..	..
Total, 1861.	3,456,072	2,626,056	83,410	21,992	1690	11,983	6,204,204	77,327	2,276	13,399	2,223	1,907	97,139	142,557	1,067	143,625	26028	1,255	2,838,558	8069	116,422	260
Total, 1860.	2,296,157	2,553,637	98,433	7374	2692	5,589	4,963,883	48,967	673	4,645	743	355	55,381	135,246	396	135,643	1029	463	1,896,939	4773	139,66	150
Increase.	1,159,915	72,419	..	17617	1002	6,393	1,240,321	28,360	1,602	8,753	1,485	1,552	41,754	7,310	671	7,982	2499	792	941,619	3596	2,323	110
Decrease.	..	..	15023	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE.—Though the figures of some of the Collectors have not undergone a final examination, it is not anticipated that the Returns, when completely revised, will vary much from the above.

AGRICULTURAL STATISTICS FOR 1860-1861.

The publication of the Agricultural Statistics to the end of March last, affords an opportunity of judging of the progress the colony is making in that grand foundation of every country's greatness—the Cultivation of the Soil. As a branch of industry, no other pursuit is to be compared with agriculture, either as regards the general prosperity of the country, or the happiness and comfort of its people. Our mining interest in all its magnitude sinks into comparative insignificance when compared with the splendid results attending the agricultural. Under a judicious system of tillage the land may be said to be a continual mine of wealth; ever reproducing and inexhaustible, and bestowing peace and plenty on all within the scope of its influence. Not so, our gold mines; every ton of gold extracted from the soil, renders the country one ton of gold the poorer; there is no reproduction going on here.

It is much to be regretted that the valuable information contained in these Statistical Returns, is not placed within the reach of our agriculturists at an earlier period of the year, because upon it the farmers would be enabled to calculate their future prospects and operations with some greater degree of certainty. The Statistics before us, were not published until the end of June, just after the sowing of the cereal crops, and we confess we think it a piece of gross neglect that they were not out earlier. It may be said it is not customary to bring them out sooner, but such excuse must not be received. By a little industry and attention, the Returns might be made up as fast as they are sent in from the different collectors, so that the whole might be compiled, revised, and published by the middle of April. At all events, if it is really impossible,—and this is a word we are afraid is in too common use among our officials—to get the whole of these returns out by that date, there cannot be any impossibility in publishing the returns of the cereal crops, so that the farmers may reap the advantage of the information they convey, in laying down their lands for the next season.

The Returns as sent in now, can only be an approximation in a great many cases,

because we know there are large quantities of hay and grain remaining in stack long after the 31st March in each year; and if the Cereal Returns were made up to the beginning of March, which would be quite late enough for the purpose, the approximation to the year's produce might be equally correct; while we should have the benefit of more early information. It might be preferable to have the Returns up to the end of March; but certainly not if they are to be looked up until the end of the following quarter.

It seems to us, in scanning over these Returns, that some extraordinary inaccuracies occur; and if this surmise be not incorrect, then the truthfulness of the whole may be questioned. The seeming discrepancies alluded to are the Returns of "holdings" for the counties of Follett and Heytesbury. From these it appears that in the former county the total extent of holdings for the past year was 13,928 acres, while for the preceding year it marked 21,242 acres; or, that the extent of these holdings had decreased by 8,314 acres. So in Heytesbury, the last years Returns show a decrease of 2,698 acres in the extent of the holdings, on those of the previous year. We will however take the Returns as we find them, and proceed to review the information they contain.

Generally speaking, that is of a most satisfactory character, as showing the rapid progress made by the Colonists in the art of Agriculture. There is one feature, however, of very significant import, which may be construed to point the reverse way—that is the large and disproportionate increase of purchased lands, as compared with the extent of land under cultivation. This arises from the vast quantities of land forced into the market as it were, and bought up, under compulsion almost, by the Squatters, as grazing country. It is not a true index of the actual state of affairs, else it might be argued that it was more profitable to graze than to till our lands. The fact is, the Squatters were bound to purchase their stations, or run the risk of being ruined; hence the vast increase under the head of purchased lands. But while that increase has been great, the pace at which lands have been brought under the plough has not slackened—even in face of the cry that farming will not pay.

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These Statistics give us this piece of valuable information at all events, that whether farming pays or not, grazing on purchased land does; and it gives us a faint glimpse of the splendid profits which must have accrued to our pastoral friends under the Squatting system.

Referring to the progress made in enclosing purchased lands, it will be seen that there is an increase for last year of nearly half a million of acres over the extent enclosed in 1860. This is a most gratifying feature in these Returns, as proving the rapid improvement of the sold lands. The figures stand thus:—

Year.	Acres Sold.	Acres Enclosed.
1860 ..	3,015,607	2,048,092
1861 ..	3,499,417	2,479,240

The following figures will assist to show the regular increase in the extent of tilled land for the last four years, being at the rate of about 60,000 acres per annum.

Year.	Acres under Tillage.	Total number of Acres sold.
1858	237,729	2,113,134
1859	298,960	2,519,157
1860	358,727	3,015,607
1861	419,252	3,499,417

In the returns showing the amount of Wheat produced, we notice that this staple grain has greatly increased, as the following figures show:—

Year.	No. of bushels grown.
1859	1,564,792½
1860	2,290,935½
1861	3,456,072

When we reflect that the produce of Wheat last year was cut from 161,232 acres of land, the crop must have been a very fair one indeed; but as a considerable portion of that grown on the sea side of the coast ranges, was spoiled by rain, the actual quantity of Wheat fit for human consumption can only be guessed at. Of the whole quantity produced, we find that the County of Talbot alone contributed 682,089 bushels, or just about one-fifth of the produce of the whole Colony, while it is shown at the same time that the average yield of Wheat in that county was inferior to none except two; the following being the averages of the eight principal Wheat-growing counties:—Ripon, 26½ bushels per acre; Villiers, 26½; Talbot, 25½; Dalhousie, 21½; The Loddon, 20¼; Bourke and The Murray, each, 18½; and Grant, 16½.

The produce of the Wheat crop then last year was—had there been none of it destroyed—equal to nearly seven bushels

per head for each man, woman, and child, in the country, so that should we continue to progress as rapidly in Agriculture as we have done for the past few years, we shall, unless our population increases wonderfully, have to look for foreign markets, in which to dispose of our surplus, or we must turn our lands to other account than Wheat growing.

In Oats we notice a decrease in the number of acres sown, as compared with last year; but there is at the same time an increase of produce giving a good average crop of 30½ bushels per acre. A considerable quantity of the Oat crop was spoiled as well as the Wheat, but we have no means of knowing exactly how much. The following figures will show the state of the Crop for the last three years.

Year.	Bushels.
1859	2,160,387½
1860	2,543,201
1861	2,553,637

In Barley there is a falling off from last year, and also from the previous year, 1859, and this decrease is not likely to be altered until we have a Colonial Distillation Act.

The Maize crop has increased considerably, but this appears due to one county alone, that of the Murray, for we find the yield of Maize in that locality for the last year to be more than double the produce of the whole colony for the two previous years combined. This district is the best adapted for Maize culture in the colony.

The Hay crop, which is a very important one, has been divided in these returns into two classes, one made from the cereals, and the other from rye grasses, lucerne, &c., and presents the following state of advancement:—

Year.	Cereal Hay. Tons.	Rye Grass, &c. Tons.
1859 ..	112,940	602½
1860 ..	134,291½	350½
1861 ..	142,557	1,067

Of this crop the largest quantities were produced in Bourke and The Loddon, the former supplying above 34,000 tons, and the latter above 22,000 tons. The last year's Hay crop also gives us the largest average yield per acre.

In Root crops, an evident falling off in the culture of the Potatoe is noticeable, although the yield was more than an average one considerably; but there is an increase in all the rest, particularly in Mangolds. The Potatoe crop is rather a

New American and Chinese Seeds.

THE Undersigned have just received from America a consignment of the following New varieties of Seeds, which are now on Sale:—

IMPROVED NEW YORK PURPLE EGG PLANT, and Long Purple ditto.
Several CHOICE KINDS of CUCUMBERS, SQUASHES and PUMPKINS.
ROCK or MUSK MELONS, including the Nutmeg, Pine Apple, Yellow Canteloupe, Early Jenny Lind, Skillman's Netted and Large Persian ditto.
DWARF OKRA and BENE.
NEW STRAWBERRY TOMATO, and eight other varieties.
WATER MELONS—Carolina, Ice Cream, Apple Seeded and Mountain Sprout.
TOBACCO—Connecticut Seed Leaf, Kentucky, Maryland, Havannah and Florida.

Also, from China, the celebrated CHINESE CARPET GRASS, with four other choice and fine sorts for Lawns, Cricket Grounds, &c.

W. LAW & CO.,

Wholesale and Retail Seedsman, &c.,
118, SWANSTON STREET, MELBOURNE.

Agents for the Sale of Rooted Vines and Cuttings for the Proprietors of the famed Yering Vineyard.

NOTICE.—The undersigned has removed from No. 4, Ryrie-street, to larger premises in Little Malop-street (opposite Messrs. Holmes, White & Co.) near Gheringhap-street, where he carries on the

Flour, Produce, and Seed Trades.

In all their branches.

ALEXANDER REID.

SEED OATS, Tartarian and Potatoc.

SEED BARLEY, English and Cape.
SEED WHEAT.—Choice samples of—
White and Red Velvets.
White and Red Lammars.
Tuscan and Talavera.
Adelaide and Tasmanian.
Rutherford's Prolific.
Buchanan's Prolific.

All Prime, Clean, and Pure.

ALEXANDER REID.

Agricultural Seeds.

LOVERS (White, Red, and Yellow), Perennial and Italian Rye Grass, Lucerne, Sorghum, Mangolds, Tares, Horse Beans, white, grey, and blue Peas, Rye, Beet Turnips, Hedge and Tree Seeds, Grasses for mowing and pasture.

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Kitchen Garden Seeds.

PEAS, Beans, Cabbage, Carrots, Cauliflowers, Celery, Cress, Cucumbers, Lettuce, Melons, Onions, Parsley, Raddish, Vegetable Marrows, Herbs, &c.

FLOWER SEEDS

Annuals, Biennials, and Perennials, in great variety.

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GRAIN Purchased or Stored, and Advances made at Current Rates.

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GUANO.

PLAT ISLAND GUANO, £5 15s. per Ton in Geelong, bags included.

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Little Malop-street,

ASKUNAS & CO.,

58, William-street, Melbourne.

Geelong, Sole Agent.

GUANO!

GENUINE PERUVIAN. Sole Agents in Geelong—

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Lawrence Island Guano.

£5 15s. per Ton, Bagged.

FOUND by Analysis very much drier, and richer in Phosphate of Lime, Ammonia, &c., than any other Guano found in the Colony.

R. H. BULLOCK,

Gheringhap-street, Geelong.

N.B.—This Guano is not wet, nor even damp or moist, but perfectly dry.

precarious one here, and we are not surprised that the cultivation of this root does not progress rapidly.

In the last column of the Corn, Peas, and Bean Table, is a jumble of Peas, Beans, Sorghum, and Millet, which shows an aggregate increase in all these crops of over one hundred per cent. upon last year. It is to be regretted that the progress made in the culture of the Sorghum and Millet is not more definitely recorded. They are without exception the two best plants grown in the colony, particularly the Sorghum; every animal will eat it voraciously, and every beast that eats it fattens on it, that is in its green state. The seeds are equally fattening as food for horses, pigs, and poultry, and they make an excellent kind of bread.

Notwithstanding the risk attending Turnip culture, the produce of these roots last year appears to have increased nearly two hundred per cent. on that of the previous year. From this fact we may presume that the ravages of the blight are becoming less destructive. In Mangolds, too, there is a large increase, equal to that of the Turnips; the two counties in which these two roots are principally grown being Bourke and Grant. In all the other root crops, the same satisfactory progress is going on, and there is little doubt but as farming improves, these crops will increase.

Under the head of Green Forage we are glad to see a large increase, nearly 6,000 acres, in the item of permanent artificial grasses; while we regret to notice that, although the increase in Rye grass and Lucerne has been steady, there is not nearly so much of the latter valuable plant grown as we should wish.

Of the twenty-one counties and districts into which the colony is divided, we find the five chief producers of the various crops to be as follows, standing in the order given:—

Wheat—bushels		Oats—bushels.	
1. Talbot ..	682,089	1. Talbot ..	655,013
2. Villiers ..	529,300	2. Dalhousie	589,727
3. Grant ..	496,799	3. Bourke ..	381,336
4. Bourke ..	491,880	4. Grant ..	263,726
5. Dalhousie	266,066	5. Ripon ..	229,415
Barley—bushels.		Maize—bushels.	
1. Grant ..	20,677	1. The Murray	18,628
2. Bourke ..	14,611	2. Grant ..	1,319
3. Villiers ..	14,461	3. Mornington	1,082
4. Talbot ..	7,757	4. Bourke ..	1,053
5. The Loddon	4,546	5. Evelyn ..	641

Hay—tons.	Potatoes—tons.
1. Bourke .. 34,881	1. Bourke .. 20,084
2. The Loddon 22,722	2. Talbot .. 14,183
3. Talbot .. 17,622	3. Villiers .. 8,552
4. Grant .. 16,382	4. Dalhousie 7,340
5. Ripon .. 10,916	5. Grant .. 7,278
Mangolds—tons.	Beet, &c.—tons.
1. Grant .. 5,787	1. Grant .. 809
2. Bourke .. 4,414	2. Bourke .. 602
3. Talbot .. 875	3. Talbot .. 268
4. Villiers .. 601	4. The Loddon 173
5. Ripon .. 392	5. Ripon .. 123
Gardens & Orchards—acres.	Vineyards—No. of Vines.
1. Bourke .. 2,637	1. Grant .. 1,333,441
2. Grant .. 1,199	2. Bourke .. 654,454
3. The Loddon 717	3. Loddon .. 234,474
4. Talbot .. 416	4. Evelyn .. 229,421
5. Villiers .. 348	5. Talbot .. 183,202

The general average per acre of the chief supplies of human and brute food is as follows:—Wheat, 21 1-5th bushels; Oats, 30 1/4 bushels; Barley, 22 1/4 bushels. Potatoes, 3 tons, 2 1/2 cwt. Mangolds, 13 tons, 1 cwt., and Hay, 1 ton, 11 1/2 cwt.

Reviewing the Statistics, there seems to be not the slightest danger of any scarcity arising at any future time, except through some visitation against which human wisdom cannot contend. The figures of Mr. Archer are most satisfactory, as proving the rapid progress we are making, and the fallacy of supposing that people cannot get on to the lands to rear food for themselves and their cattle.

BARLEY GROWING.

We now lay before our readers most of the facts that are to be learned in regard to the growing of Barley in this colony during the past seven years; the quantities and values of the Barley and Malt imported; and the total number of gallons of ale and beer, with their estimated value, during the last six years.

It will be observed that there are great variations in the produce per acre; and part of this is attributable to the fact that in the early years the land laid down for Green Crops or Hay in Victoria, was not properly distinguished from the land sown for Grain alone:

Season.	Acres of Barley.	Bushels produced.
1854-1855 ..	1,039	14,339
1855-1856 ..	1,548	45,150
1856-1857 ..	2,233	69,548
1857-1858 ..	5,409	156,458
1858-1859 ..	5,322	113,939
1859-1860 ..	4,121	97,411
1860-1861 ..	4,118	83,410

In order to prove to our Agriculturists that there is room for a great extension of this branch of farming, we now submit the quantities of Barley and Malt received in this Colony from British and Foreign ports, during the same period:—

Bushels Barley.	Value. £	Bushels Malt.	Value. £
1855.—155,949	48,362	46,697	28,046
1856.—32,087	10,894	81,450	50,967
1857.—43,783	18,481	132,519	75,454
1858.—128,255	34,490	220,777	121,423
1859.—90,059	18,759	198,791	96,164

WILLIAM CLARKSON,

Seedsman and Florist,
(Agent for Mr. T. Adcock, Kardinia Nursery.)

KITCHEN GARDEN SEEDS, of new and approved sorts; also, a few novelties, all of a vigorous growth, (being tested.)

FLOWER SEEDS, comprising nearly 400 varieties, and many novelties.

HEDGE AND TREE SEEDS, see Catalogue.

LUCERNES, CLOVERS, GRASSES, MANGOLDS, &c., of every description, tested and proved previous to sale.

Vine Pruning Shears (varieties), **Verge and Hedge Shears**, and other sorts, **Bass Mats**, **Cucumbers**, **Glasses**, **Knives**, **Garden Reels and Lines**, **Tallies**, **Botanical Specimen Boxes**, and **Implements** of every description for the Garden and Greenhouse or Conservatory. For a complete list see Catalogue.

Experienced Gardeners Recommended.



Kardinia Nursery, Geelong.

Established 1851.

HAS NOW ON SALE a very Choice and Extensive Collection of

POT-GROWN PLANTS,

Well established, strong and hardy, having been grown with the greatest care.

ORNAMENTAL TREES AND SHRUBS

In every variety, suitable for large or small gardens, at reasonable rates.

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In addition to the usual Stock, upwards of one hundred new varieties have been added. (See Catalogue.)

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Now number over three hundred varieties, including all the new sorts raised in England last year.

NATIVE AND ENGLISH FOREST TREES,

And everything required for the Garden and Orchard.

Priced Catalogues (free by post), and every information, by applying to the Proprietor, or his Agents.

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AGENTS.

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Beechworth—Mr. V. Rochlitz.

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WHOLESALE AND RETAIL

Nurserymen, Seedsmen, and Florists,

62, MAIN ROAD, BALLARAT,

HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds.
Fruit, Forest, and Ornamental Trees.
Shrubs and Pot Plants, a good variety.

MESSRS. B. & S. JOHNSON,

PRACTICAL SEED GROWERS, NURSERYMEN,
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Priced Catalogues now ready.

PARKER & MACORD,

Tent and Tarpaulin Manufacturers,

AND DEALERS IN TENT MATERIALS,

FURITERERS, CONFECTIONERS, AND SEEDSMEN,

PALL MALL, SANDHURST.

The following figures tell their own tale; they show how more than half a million yearly, leaves our hands for an article we could make in any quantity and with the greatest ease, were all restrictions on its manufacture removed; and we shall not cease to urge on our fellow-colonists the importance of having malting establishments in every district, the substitution of malt and hops for the sugar abomination by the brewers, generally, and the economic comfort and advantages of "homebrewed" ale in every family, until the people are stirred up TO HELP THEMSELVES in a matter, which they, unaided, can carry through with ease, and in which no others will ever render them effectual help.

Imported in	Ale or Beer, gallons.	Value.
1854* ..	3,419,698	£725,439
1855* ..	2,252,863	516,647
1856* ..	3,041,857	661,084
1857 ..	3,883,300	851,392
1858 ..	2,886,078	605,857
1859 ..	3,679,457	664,619

* In 1854, 1855, and 1856, the quantities of Ale, Beer, and Cider, were taken together in the Customs' Returns.

THE TRUE CAUSE.

We propose in the present article to address ourselves specially to a class of Farmers who form a very large and important section of the Agriculturists of Victoria,—men cultivating from twenty-five to forty and fifty acres of land, generally by their own hands, assisted, it may be, in the lighter labours of the farm by their wives, and the boys and girls of the family, if they are so fortunate in having such helps. If any class of farmers ought to make the cultivation of the soil profitable, it surely should be those who are able to carry on operations throughout the greater part of the year, without requiring labour outside the family circle. We know from long experience that no men, as a rule, work harder or more continuously. A large number of them are thoroughly practical farmers, who plough deep, know the true value of manure, have a wholesome hatred of weeds and foul land, raise good crops, and do well up to a certain point, and then somehow or other fail. We hardly know whether this word expresses precisely what we mean. But we know the class of agriculturists we are speaking of, to use a phrase too well understood—*don't get on*.

There must be causes for this, and it is our duty to trace them to their source, and point out in what they consist. Just so the medical practitioner, before he attempts the cure of a deep seated complaint, always endeavours to satisfy himself thoroughly how it has originated, and this accurately ascertained, the remedy almost suggests itself.

We feel, as we have long felt, a deep interest in the success of all farming interests. We have given Agriculture our undivided attention for many years, and so well assured are we that the prosperity of the Colony must eventually depend upon the success of the farmer, that we must be pardoned if we speak out our minds boldly; and, without mincing words, sift the whole matter to the bottom if it be possible. We shall begin then by stating that farmers, we think, do not

succeed for (among others) the following reasons:—

First—They err as to what particular crops they should cultivate.

Second—They invariably show great want of judgment, and as a consequence incur heavy losses, in the system pursued of bringing their produce to market.

Third—Farmers as a rule do not practice that rigid economy that men should do who desire success.

We find this class, with few exceptions, always in arrear with their tradesmen. We find them working this year to pay off the old scores of the last. They are always in the books of the grocer, the seedsman, the draper, and we fear too often the *publican*. Their crops invariably anticipated, and nothing to the "fore."

Of course with such men farming "does not pay."

The heaven of the golden days has not worked itself out. The Agriculturist is not content to *live*. He must make money. He goes upon no established principles. He does not calculate what his land will grow to the best advantage. He is always trying to look ahead and see what the markets for some particular description of produce are likely to be. He does not farm in the true sense of the word. *He speculates*. He has an idea perhaps that potatoes next season will rule at a high figure and away goes all the money he can scrape together for seed. He ploughs and manures, and brings what land he can to grow this particular crop. You ask him why potatoes are to pay so especially well, and he can give no reason worth anything why he thinks so. If it turns out, as it frequently does, that he obtains a good crop, so it will be found every body else who has grown potatoes has had the same success, and he gets no profitable return for the produce of his labor and outlay. If a bad crop he does not probably realise much over the first cost of his seed. He is all behind and attempts to redeem his misfortunes by some other speculative effort. Sometimes he "goes in" all for Green crops, at another for Wheat, again for Oats, or large crops of early Peas or fancy Potatoes, but it is all upon sheer conjecture.

There is neither judgment nor foresight in the matter. We could name scores of farmers who have ruined themselves by this self same system.

A prudent tradesman, who is a man of business, will always endeavour to keep the best assorted stock his means will enable him. A Grocer will not spend the whole of his capital in tea, or sugar, or tobacco, but he economises his means for keeping a general supply, so that whatever his customers may require he can furnish them with at command. It is not an asolitary article by which he pays rent and taxes and supports himself and family. This man with common industry and an ordinary share of luck generally prospers, while his neighbour, who reads of a scarcity of Sugar at the Mauritius and speculates upon it, generally in the long run goes to the wall.

The farmer, as is too often the case, must not expect fortune to smile upon him in one or two seasons. It is an occupation above all others on which, while he requires to be unceasingly active and industrious, he must bide his time. He must consider if he looks for *permanent* prosperity, what his land will

Flowering Bulbs and Tubers.

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BALLAARAT.

HAVE just published a List of Flowering Bulbs, which they believe is the most complete that has been published in this part of the world. It may be had on application.

DIANTHUS HEDDEWIGGII.

This very beautiful herbaceous plant was brought to England two years ago from Japan, and was introduced to this country during the past season, by Dr. Kenworthy, F.R.S.V., President of the Ballarat Horticultural Society. The whole stock of Seeds and Plants has been by him placed in our hands.

This is undoubtedly one of the most showy and beautiful Plants ever introduced. It commands the admiration of all by the brilliant and varied colours of its flowers, which are fully three inches across. Its habit is elegant and it flowers profusely, and is quite hardy and easily grown.

Seeds, 1s. per packet, should be sown during winter, and will produce flowers during next summer. Plants, 1s. 6d. each, or 12s. per dozen, will flower sooner, and produce stronger clusters.

THOMAS LANG & Co., invite inspection of their valuable stock of Fruit Trees, Shrubs, Evergreens, Coniferous Plants, Greenhouse Plants, &c.

N.B.—Thorn Quicks for Fences; also, the Prickly Osage Orange, so famous in America as a hedge plant. It grows so strong that a bullock cannot break it down, and so close that a cat cannot pass through it.



Boots for Stations.

THE Undersigned begs to inform Farmers and Settlers of the Western District, that he has constantly on hand, and for sale, a large shipment of both Colonial and English made Boots, guaranteed of the best material and workmanship, at moderate prices. Parcels made up strictly to order, and punctually forwarded.

SAMUEL HIGGOTT,

MANUFACTURER AND IMPORTER OF BOOTS,
60, Moorabool-street, Market-square, and 16, Malop-street east, Geelong; and Main Road, Ballarat.

Wheat and Oats.

THE Undersigned are prepared to receive Grain on Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.

WHEAT. WHEAT.

THE undersigned are CASH buyers for delivery at their Mill at Riversdale.

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On Sale,

By the Undersigned,

GALVANIZED FENCING WIRE; Black Fencing Wire and Corn Sacks.

DALGETY, IBBOTSON & CO.

To Farmers and Others.

ON SALE, at the Stores of the Undersigned—
Victorian Flour (first brands).
Seed Wheat, several varieties.
Seed Oats.
Bran.
Hydraulic pressed Hay.
Ration Sugar.
Seed Oats.
Guano, &c. &c. &c.

A. C. MACDONALD.

Queensland.

STATIONS (without Stock) FOR SALE. Terms very reasonable.
Map of the Country, Acts and Regulations relating to Waste Lands, with all other particulars, at the Office of

A. C. MACDONALD.

best produce with the smallest outlay, and the least exhausting to the soil. He must not trouble himself with what is likely to fetch a long price six months hence. Men who can afford it may do this, if they think proper, but the poor farmer must not. He has to grow for himself and his domestic requirements as well as for the market. His horse must have hay and oats, and he should make certain of a sufficiency until the succeeding harvest. He must have flour for bread, and he must grow for this necessity. Does he always do so? He wants potatoes and vegetables for himself and family, and how often does he forget a garden. There is milk and butter wanted, but there is no cow on the homestead or in the paddock. Bacon and pork, and the pig-sty has long been without its tenant. There is such an utter want of thrift and management in all this, hardly to be accounted for; for we see the man working, toiling, struggling, and slaving early and late while he is all the time going to the bad. He is not deficient in farming knowledge. He has seen things managed differently where he came from in his County in the home country; but he appears incapable of acting under a system which would eventually set him strong upon his legs. If any of our readers doubt the accuracy of the picture we have drawn, let them walk over the small farms in almost any of the country districts, and they will soon convince themselves of the truthfulness of our statements.

With respect to our second charge,—the want of judgment on the part of the farmer in bringing his produce into the market. No sooner is his wheat thrashed, or his hay stacked and ready to cut for the market, or his potatoes bagged, than he again begins to *speculate*; that is, he always holds on with some vague undefined idea that the markets will rise. It is almost a matter of indifference to him what price he could get at the time his produce is marketable. He fails to consider whether the rate going will pay him well or indifferently, or will only cover the cost of growing it. No, he believes by-and-bye wheat, or oats, or potatoes, or whatever it may be he has got to sell will "go up." Why, he cannot tell you. The fact is he *hopes* such will be the case, and then from hoping and thinking he becomes confident. He has no data, no ground-work for his belief any more than when he grows all one sort of crop, in the full expectation that *that* beyond all others must pay. The storekeeper has long been asking for his account; so has the butcher, and the draper, and one or two others he is indebted to. His invariable answer is, "I have not sold my wheat yet," or whatever it may be he has to sell. By-and-bye the tradesmen begin to dun and then to threaten; and then the farmer at last, on compulsion, sells his produce at probably twenty-five to fifty per cent. lower than what he could have obtained in the earlier part of the season; besides paying from twenty to thirty per cent. additional for his necessities, which is charged upon the items for the credit given and the risk run. This statement would scarcely be considered credible were it not easily confirmed, by reference to merchants, mill-owners, and others who buy wheat from the farmers, and are always ready to purchase at the full market price. Ask these gentlemen if wheat is worth 7s. 9d. in February; 7s. in March, and 6s. 9d. in April, which might be about the figure

ruling in these months during the present year, whether more farmers do not press their wheat on them in the month at which the price rules lowest?

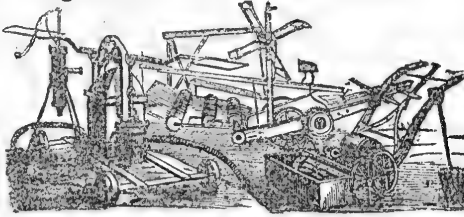
We ourselves knew a farmer who last year had got about six tons of very fine potatoes, which he could have sold readily at fifteen pounds per ton. He thought as usual with his class they would "go up." Heaven only knows why, and he eventually sold them for £3 5s. and had to take the most of it out in stores. It is quite true the reverse of this might happen, and the market might turn in the farmer's favor, although we must confess that it seldom does; but the farmer will find that what he has gained in price he will have lost in bulk and quality. His hay has been injured by the wet; much of his wheat destroyed by mice or rats; his potatoes shrunk in weight by drying and deteriorated in quality.

But we have already drawn in excess of our space and must continue the subject in a future article.

GARDENING OPERATIONS.

Kitchen Garden.—This ought to be a busy month; sowing, preparing to sow, and making such alteration as may be necessary previous to the hot weather coming on. Peas may be sown twice during the month, and it is a good plan to sow two kinds at the same time; they will come in at intervals, and there will be no break in the supply if the rotation of sowing be attended to. We would sow now for an early crop the early Racehorse, or Rising Sun, or Early Frame, or Sangster's No. 1, the last, perhaps, the best; and, at the same time, Burbidge's Eclipse, or Bishop's Long-podded Dwarf, or Hair's Mammoth: then, towards the end of this month and middle of next we would put in another crop of the same varieties, and some of the stronger marrows. Dwarf varieties should be sown in single rows, three feet apart, and, for the present three or four inches deep. The tall kinds should be sown from four to five feet apart. Broad and Windsor Beans may be sown now, and for a month or two. We have found it a good practice to sow these in double rows, one foot apart between two rows, and three feet from the next two, and so on. Beans may be sown to the same depth as peas. It is too early, unless the garden be exceedingly well sheltered from wet and frost, to sow French Beans. Peas or Beans sown on good new ground do not require manure. They do well to follow a crop that has had a good supply of manure. On very poor light soil they require a little well rotted manure. Beans like a rather heavy soil. Plant Cabbages and Cauliflower on well-manured ground. Cabbages may be planted a foot apart, and every other row and every other plant in the row to be left may be cut out when they have attained the size of good sprouts. Cauliflower should be planted from two feet to eighteen inches apart each way. Sow a little seed of each of these vegetables for future planting. Plant out Lettuce on well-manured ground, and sow some seed. The Cabbage varieties are best to sow now; the Coss to plant, and, amongst the former, the Victoria is perhaps the best, the Paris amongst the latter; but there are many other good varieties. If the weather be fine towards the end of the month, sow some Carrot and

Agricultural General Machinery.



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Pumps, Cast Iron and Lift	Saw Mills
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Parsnips, waiting a fortnight after to sow the main crop; the early crop may run to seed. For gardens, we prefer the Newark improved Carrot, and the Hollow Crown Parsnip. Sow a small portion of Onion. This bulb delights in a rich soil; it should be sown in rows about one inch and a half deep, and fourteen inches between the rows. The Globe and Spanish Brown are our favourites. All seeds should be sown in rows, it facilitates weeding and allows for a constant stirring of the soil amongst growing plants. Sow Parsley and the various kinds of pot-herbs. Plant out another crop of Celery, and earth up the early crops in dry weather. This delights in manure. Plant Rhubarb on deep soil well manured, and in a rather moist shady situation. Plant Horse Radish; make a hole two feet deep and drop the crown into it, and fill up with light good soil. Sow Radish at intervals for a succession crop. Plant early Potatoes on a sheltered spot where they will not have the early morning sun when they come up; it is the early sun that kills them after a frost. The Stone Turnip may still be sown, but it is almost too late. Plant Asparagus and Seakale at once, always in rows. Dig and manure all vacant spaces of ground.

Fruit Garden.—All kinds of pruning should be at once finished where it has hitherto been neglected; and planting should also be completed at once, to enable the roots to get firm hold ere the summer sets in.

Flower Garden.—Finish alterations at once. Make new hedges where necessary. Divide and put in slips of Chrysanthemums, and also all kinds of herbaceous plants. Plant Pink and Carnation layers that have been struck in the autumn. Plant out Hollyhocks, Sweet William, Phlox, Dianthus, Asters, &c., sown in autumn. Plant Roses, and put in cuttings of the varieties that will strike in that way. Plant all kinds of ornamental shrubs and trees at once. Sow Mignonette, Stocks, Dianthus, Clerkia, Collinsia, and other annuals, to come in early. In dry situations all newly planted trees should be watered to wash the soil in amongst the roots to keep them moist and induce growth; many plants are lost for want of a little water when planted. Cut hedges, make new walks, and dig at once wherever necessary.

SEASONABLE HINTS.

MANURE and dig deeply all vacant spaces of ground, and where it is not intended to put in a Crop of anything at once the surface may be left as rough as possible to allow the soil to have the benefit of exposure to the sun's rays and the atmosphere. It is a mistake to make the ground in the Kitchen Garden smooth and fine, unless it be where small weeds are to be sown, especially on soils that will bind; the looser and more open the soil the greater benefit do the crops obtain, and indeed this is easily demonstrated by forking up the ground between rows of Cabbages or any other vegetable that has been planted for some time. The Crops will be stimulated to increased growth, and the process of loosening or stirring up the soil will act as a kind of stimulant to healthy vigour. When any garden has been under crop for several years without having had any manure, we strongly advise that it

should be trenched; or at least dug very deep to bring up some of the new or maiden soil to mix among the exhausted top soil. In stiff clays this would hardly do, but where it is very stiff we would recommend a portion of the soil to be burned and strewed over the surface to be dug in. This burned soil is an excellent fertilizer and acts in a mechanical way as well to open the soil to the influence of the atmosphere.

We see so many abortive attempts to dig a piece of ground properly, by even some who profess to "do up gardens" that we are induced to say a few words on the way in which a piece of ground should be dug. Of course instruction would be much more easily conveyed by having the scholar at ones side with the spade in his hand than by writing, but even a few words may be of service. Almost all amateurs when they begin to turn up a piece of ground do so without taking out a trench or furrow first, the consequence is, they begin with the ground high, and then finish it with heights and hollows in it as though a number of fowls had been scraping and dusting themselves in it. We will suppose that a portion of ground thirty feet long, and fifteen feet wide has to be dug. (The same principles will apply if the piece be much larger or much smaller.) A trench, a good spade deep, and the same width or wider should be taken out right across the end and carried or wheeled back to the other end to fill up the last trench. The weeds or rubbish should be cleared away before the soil is laid down, or they will be turning up when the trench is being filled up. The first trench having been taken out, the manure and weeds on the next width, six or eight inches, should be put into the bottom of it, and this width should then be turned fairly over by a twist of the hand, making the surface go to the bottom of the trench and the new soil on the top. In pushing the spade into the ground, either with the heel of the right or left foot, both hands would be up at the eye or top of the spade handle, but to move the soil and turn it over, one hand must be slipped down to nearly the head of the spade and the other hand be lowered towards the ground acting as a kind of lever, and very little difficulty will be experienced in giving the proper twist. A second trench will thus be left as wide as the first, and the same process must be gone through with each trench to the end of the ground. If this be attended to, digging will not be found to be the back-aching job it is generally supposed by those not accustomed to it, and the ground will be kept level all the way through. We have already said it need not be broken very smooth, but may be left rough as it is turned over. All this may seem ridiculous to be dwelt upon by those who know well how to dig, but we have reason to believe that many amateurs will thank us for this "hint."

The best kind of implement for digging with, is decidedly the four-pronged steel fork, with the prongs twelve inches long, and the whole together forming a head eight inches wide. It requires the exertion of less power; breaks up the soil more effectually, when necessary, than a spade, and does not clog even when the soil is wet. When worn it can be relaid, and is consequently less expensive than the spade.

Edges.—This is about the best period of the year for planting new edgings for beds and borders; and where these in old beds have

become ragged or too large they should be renewed. There are many plants used for this purpose, but the best for this country are the common and Lemon Thyme, Rosemary, where the beds are large, Camomile and Thrift.

Rosemary.—We lately called on a friend and found him cutting numerous pieces of Rosemary into lengths of about six inches, for the purpose he said of planting them round the edge of a flower bed, and he was going to do this with a dibble. Now this is not the proper way to plant Rosemary edges, although our friend said he saw a man putting it in in a similar way in a fine garden the other day. The edge of the bed or border should be properly made up and beaten firm and level all round or along, as the case may be, with the back of a bright spade. The line should then be put along it, and a small trench about four inches deep, cut in a similar way to surveyor's trenches, should be cut out. The cut edge of the trench being the edge of the border, so that the roots of the plants to be put in may incline to the walk, not under the border as we frequently see. Slips of Rosemary about eight inches long, should then be taken from the old plants; (if the old plants have been planted deep for a time so that the young shoots have struck all round so much the better), and laid in this trench at distances apart of about two to three inches. The left knee of the operator should be placed in the trench to press the earth in on the young shoots, as it is brought up against them with the right hand. The back of the left hand will hold the slips in their places till the soil is placed against them. When the whole edge is put in, it should be gone over, and any loose places made firm with the foot. The tops of the slips should now be cut off with the shears (not before), leaving the slips about two inches above the ground. The whole of the earth should then be put back into the trench, and the gravel put over all, and thus a nice neat edge will be secured.

Thyme, of which the Lemon kind is best, may be put in in a similar way to Rosemary; but Camomile or thrift will require to be planted in single plants on the edge of the border when it has been properly levelled and made up. The edge should then be neatly chopped off with the spade, so that the plants are left on it about an inch or two inches from the outside. Nothing so much conduces to the neat appearance of the flower garden as low well kept edges.

A Visit to Yering.

THOUGH some of the Melbourne Journals contained some time ago a few remarks on this splendid estate of Messrs. Castella and Anderson, I yet venture to offer a few words on the same subject to your valuable paper, as I think a short description of so magnificent a place may not be unwelcome to its readers.

Yering, or to speak more correctly, the homestead of an estate of that name, comprising above 20,000 acres, lies on the banks of the Upper Yarra, about 40 miles from Melbourne. More or less high ranges surround an area of several thousand acres of flat or slightly elevated land, on which Messrs. Castella and Anderson have erected their homestead. Extensive flats stretch from the latter to the Yarra, which forms there a large

bend, so as to be readily accessible from the houses in several directions. Water covered formerly, and partly covers even now, the whole of these flats and rendered them almost useless, cattle finding, even during the dry season, very little food amongst the rushes, or sour grasses growing there, although the soil, if properly drained, would have given immense crops of any kind.

Mr. Castella, aided by an experienced surveyor, vigorously commenced these draining operations, and has now accomplished the greater part of this almost gigantic but certainly profitable undertaking. When visited by me a few weeks ago, above ten miles of drains had been finished, reclaiming thereby between 3,000 and 4,000 acres of the best agricultural land. A number of ploughs were at work already to prepare part of this land for the reception of the seed. Wheat is to be principally cultivated this year; abundant crops of this or other cereals will doubtless be obtained, when the soil has, through the influence of the atmosphere, been sufficiently opened. A large portion of these flats will be laid down with various English and other grasses; the Californian Prairie Grass and some others lately imported, are to be experimented upon.

To enable your readers to form some idea of the magnitude of these draining works, I will only state, that the smallest of the drains is 8 feet wide on the top, by about the same depth, whilst the larger ones, and these are by far more numerous, measure from 8 to 16 feet on the top by 8 to 14 feet depth. The whole of these works has been done by contract at very reasonable prices.

When finished, between 5 to 6,000 acres at least will have been reclaimed. By cutting a second drain, small in proportion to the others, from the upper part of the Yarra, the whole of this land can be irrigated, and I believe the spirited owners intend to carry out this work also.

Leaving this highly interesting part of the estate, we turn to the homestead, where we have ample opportunity of admiring the skill and enterprise of the owners. Agricultural machines and implements of the greatest variety are seen there, all of which will be found of immense advantage, when the farming operations are carried on, on a larger scale than has been done in former years. Amongst the live stock kept on the place are a number of pure bred Cotswold and a small flock of Chinese sheep. The latter only little known as yet, might some time hence be found very useful to the small farmer or cottager, whose aim it must be to rear on the smallest possible space the greatest number of useful animals. The Chinese sheep are not only very frugal, but also very prolific, each ewe producing two or even three lambs. Their wool, if this name can be applied to it, is very inferior, but their flesh is said to be excellent. These sheep might, perhaps, answer for the unknown animal, which Mr. E. Wilson, in his letter to the *Times*, desires to see introduced to Great Britain. The animal, he says, should not be too large to be consumed by a middle class family, and the flesh of it should be rather meaty than poultry like.

A fine entire horse, I believe an imported Suffolk Punch, kept on the place, was turned loose in one of the paddocks, so that I had no opportunity of seeing it. The forests in the neighbourhood of the homestead are enlivened

by a herd of deer, a few of which had been turned loose some years ago; they have increased rapidly and pay sometimes rather unwelcome visits to the gardens and vineyards by leaping over the fences. Proceeding to the garden, we find several acres of old established vineyard, kept in very good order. The abundant crop gathered from these vines have been made into wine, the excellence of which I had an opportunity of testing. A nursery contains a large number of young vines, destined to fill up vacancies in the main vineyard, and to increase it in size. A most valuable addition to the varieties of grapes cultivated hitherto in Australia, has been made by Captain Anderson, he having imported a great number of wine and brandy grape cuttings from the famous wine and brandy producing districts of France and Spain. Most of these cuttings arrived last year in good order, and may be seen now as well established plants in Yering. The shoots of some are sufficiently strong to serve as cuttings again.

Some fruit trees, amongst which I observed trees of the cherry plum, the largest I have seen as yet, show by their luxuriance the adaptability of the soil and climate of this locality for horticultural pursuits. A very fine specimen of the Date Palm, growing on one of the borders, proves that even plants indigenous to warmer climes, will flourish in the cold ranges near our coast.

Little has been done as yet for improving the pleasure grounds, a few ornamental trees only having been planted; but if Mr. Castella's ideas on this subject are once carried out, they will be fully in accordance with the manifold other improvements of the estate.

We now direct our steps in a southerly direction, and soon reach the new vineyard, a gently undulating elevated piece of land, comprising at present rather more than fifty acres, the main aspect of which is to the east. The soil well adapted for vines, has been mostly broken up with the subsoil plough, to a depth of eighteen inches, a portion only having been trenched by hand. The drainage is naturally good, gravel being mixed with the soil, but several drains have been formed, so that all superfluous surface water will easily be carried off. The greatest part of the vines were planted during the past two years, and stand very regularly in rows, four feet apart, great care having been taken to keep the sorts together; one of the most essential and yet too often neglected requirements of a vineyard.

The manufacture of wine alone being aimed at, table grapes are excluded here, and we find only such sorts as are known to yield superior wines; amongst these I will only mention the Black Cluster, Hermitage, La Gloire, Tokay, Reisling, Chasselas, and some Gouais. A few rows of the Tinto, the best grape known for adding to the brilliancy of the colour of red wines, may likewise be seen. The vineyards are in charge of two experienced vignerons, who keep them in excellent order. It would lead me too far were I to describe the skilful arrangement Mr. Castella has made for working so extensive a vineyard; suffice it to say, that he has contracted with the vignerons to perform all the work necessary during the year, some conditions of the contract ensuring due diligence and satisfactory work on the part of the men, who would not gain anything by hurrying over the work.

The men earn under this contract very good wages, and Mr. Castella is also a gainer, by having always a number of men ready at hand, for performing work not connected with the vineyard, at lower wages than he would have to pay to others hired for some special purpose.

The press-house is fitted up with all the apparatus necessary for a complete establishment. Amongst others things I will only mention a splendid screw-press, which gained, I believe, the prize at the last Exhibition in Bordeaux; a mill for crushing the grapes previous to being pressed; a corking-machine, and many others. All these and many of the others required for the farm, were imported direct by Captain Anderson, who selected the latest improvements during his tour through France, England and other parts of Europe. The zeal shown by this gentleman for improving not only his own estate, but also the colony at large, by introducing so many valuable machines, deserves great credit.

The press-house is in immediate connection with the temporary cellar; permanent and larger premises for press-houses and cellars are to be formed very shortly. But, not satisfied with the improvements mentioned above, Messrs. C. and A. intend to turn their attention also to other branches of husbandry, rarely or never as yet experimented upon in this colony. A mulberry plantation has been formed, and will be increased, so that we may hope to see in a few years some larger samples of Victorian silk. Chicory, dye plants, tea and many other plant likely to thrive in that locality will be experimented upon, so that the estate at Yering will in a few years, if not even now already, fully deserve to be called a Model Farm in the true sense of the word. I cannot conclude this narrative of my visit to Yering better than by expressing my best wishes for the success of the enterprise in which its owners have embarked, and I only hope many others may follow their laudable example. H.

Societies.

Horticultural Improvement Association.

The monthly meeting of this Association was held at the Mechanics' Institute on the 17th instant; the President in the chair. The following letters were read by the Secretary:—

From Mr. Eugene Fitzalan, of Port Denison, acknowledging the compliment paid him by the Association in electing him as a corresponding member, and promising to furnish for an early meeting a paper on the capabilities of the district in which he was likely to make his home.

From Mr. George White, of Queenscliff, enclosing the sum of £1 4s. 3d. as a contribution from Mr. Fitzalan, being proceeds of the sale of plants sent down by him from Queensland.

From Mr. A. C. Macdonald, enclosing leaves of the Leichhardt tree which grows two hundred feet high, of the Native Fig, and the Chesnut of Queensland.

From Mr. Ferguson, gardener to the Hon. J. H. Brooke, stating that he had intended to be present, but being prevented, he had forwarded a paper on "Ornamental Planting," especially adapted to the climate of Victoria, and more suitable for shade in the streets of large towns, and also for ornament in the public reserves.

Mr. Middlemiss then read the following paper, of which notice had been given at the last meeting:

ON CROSS-BREEDING OR HYBRIDIZING, AND THE IMPROVEMENT OF FLOWERS, &c.

Mr. Chairman and Gentlemen,—In casting about for a subject whereon to address a few observations to you this evening, I have had occasion to regret that I undertook the task; for, although it is very pleasing to attempt to do anything for the advancement of this flourishing young Society of ours, I feel the pleasure, in my case, somewhat marred by my inability to present any subject in a satisfactory manner, to so critical an assemblage as the members of the Society have proved themselves to be, in the various discussions that have arisen on subjects brought forward at our meetings. I, however, never make a promise that I do not intend to fulfil to the best of my ability; and, with your permission, I now proceed to the fulfilment of the promise, that, I may say, was almost extorted from me at the last meeting, by the challenge of our friend, Mr. Adcock, by reading a few Observations on Cross-breeding, and improving Flowers &c.

Well, you will very likely tell me that I should have been less ambitious, and have chosen a less great subject than this. But while feeling that I cannot undertake to grapple with all the mysteries which encircle this fascinating science, nor expound the correct doctrines of the "Origin of Species;" it has been such a favourite study of mine, that I felt impelled to take this opportunity of saying a little about it; and it must only be a little, a mere superficial glance at some of the principles involved in the science.

The late Mr. Knight, of Horticultural renown, than whom no one devoted more time and attention to the elucidation of the various phenomena connected with Vegetable Physiology, was of opinion, that inter-breeding between what is considered as distinct *genera* or species could not take place. While a no less eminent man, and one of the most practical of modern Hybridists, the late Dr. Herbert, Dean of Manchester, after stating many facts, writes thus, in opposition to Mr. Knight's theory:—"Can we, in the face of these phenomena, assert that no vegetable since the period before the sun and moon gave it light, no bird or fish since the Almighty called them forth from the salt mud, no creature of the earth since it was evoked from the dust, can have departed from its precise original structure and appearance? Let us be more humble in our assumptions of scientific knowledge; less bigoted and self-sufficient in our examination of revealed truth, and let us give glory to the infinite and unfathomable power and wisdom of God. The cultivator has the test of truth within his scope; and far from being an evil, I look upon it as a great advantage, because it will lead the gardener to take a higher view of the objects under his care, and to feel his own connection with science." I quite agree with this learned writer; and it is something for us to know, that it is within the reach of even the humblest amongst us, by practical experiment, to determine some of those important points which the learned philosopher has as yet been unable to fix on the firm basis of truth. But our experiments must be conducted with the most rigid accuracy of observation and closest adherence to the very minutest principles of science, or any facts suggested from them will be worthless. But while admitting the correctness of the theory of the Reverend gentleman whom I have just quoted, I must say that there is no real absolute and sufficient theory yet constructed, whereby we can say before hand that such and such distinct species will cross or breed. This knowledge must be gained by actual experience; and the more investigators we have, the sooner will the facts we want accumulate. This, however, has been clearly proved, that plants or species will intermix with

others of their own family; and that the breeds so obtained, may be fertile, half fertile, or barren, according to circumstances.

Hybridisation effected between distinct varieties of the same species is, perhaps, the most useful and valuable, because Hybrids so obtained will reproduce themselves true from seed, if not artificially impregnated with any other variety (the Turnip, the Carrot, the Cauliflower, for instance); and you will bear in mind, gentlemen, that careful Cross-breeding and Culture have given us the majority of the luscious fruits and luxuriant vegetables which are now so common. I remember reading a paper, in fact, a number of papers, in the earlier numbers of the *Cottage Gardener*, one of the best works for gardeners, published in England, from the pen of an old gardener, (I wish I had the numbers by me now,) Mr. Donald Beaton, who was the first to inspire me with a liking for raising new things, wherein something like these words occur: "I am quite sure that a great deal of the confusion that exists as to Cross-breeding, both in the Animal and Vegetable Kingdom, arises from the fact, that analogy has been the guide of the Naturalist more than actual facts; and that every step in the progress of Cross-breeding must be arrived at by experiment, and that anyone of my readers is just as likely to arrive at truth in these matters as the most consummate philosopher." I think, gentlemen, we can have no greater encouragement than this; and, I assure you, it is a matter of no small importance in a scientific point of view. Our little practical experiments may serve to demonstrate to some rash philosopher, whose scientific theories may have a tendency to shake confidence in the sacred book of God, that he must pause in his course and reconsider his premises and conclusions. Here permit me, for a moment, to do justice to the gentleman I have just named. Although I have read every thing on which I could lay hands on with respect to Hybridising, I have learned more from him than from any other writer; and though he would not remember anything about me now, he first showed me how to impregnate a flower for a cross.

But, to return, Zoologists at first believing the horse and the ass to belong to different families, admitted the possibility of union between distinct families, but that the offspring of such union would be sterile as in the Spanish mule. Botanists looked at the subject in the same light and got themselves and their followers into great confusion in consequence by the facility with which Hybrids of many species, the Rhododendron for example, could again be crossed, and produce an offspring differing in many particulars from themselves. In a work that has lately caused so much excitement in the scientific world, Darwin's "Origin of Species," a chapter is devoted to the close examination of this subject, and as I can, as I have already said, only glance over varied intricacies of the science in a short paper like this, I must refer you who think it worth your while to investigate the matter thoroughly, to that volume, to the works of Dr. Herbert, Knight, De Candolle, Carpenter, and others, not forgetting the above-named Mr. Beaton, for such information as I am sure will fascinate you with the proceedings of the Hybridist. I would remark, however, in passing, that there is no country in the world better adapted for experiments in cross-breeding than this in which we dwell; and I trust, that ere long, we shall see so much attention devoted to it, if merely in a gardening point of view only, as will place us on an equality with, if not in advance of the florists at home, who have done so much to improve the popular flowers of the day.

To understand the process of crossing one flower with another, it is necessary to know the different parts of a flower. And those of you who know all

about these things will pardon me if I have to go over ground that has been long ago trodden by you, (indeed this will apply to the whole of this paper,) for the edification of those who I may suppose have not turned their attention to the matter. I will take the flower of a Geranium for an example, and I find that the green covering which encloses the flower leaves is called the *calyx*, and the flower leaves are the *petals*, inside of the cup of petals we find a number of reddish oblong bodies called *anthers* all held up by whitish looking threads called *filaments*. These anthers open with two slits on one side when they are ripe, and discover a yellow kind of dust in the opening, which is the *pollen* ready to be discharged, or conveyed on to the *stigma* when ripe, which stigma is the top of a thread-looking substance coming up by itself in the middle of the flower which is the *style*. The style is attached to a substance at the bottom of the flower called the *pericarp* or seed vessel enclosing the *ovary* which in its turn encloses the embryo seed. An Apple or a Peach is merely a pericarp or seed vessel, and we see by those things what can be done by cross-breeding and cultivation when we think of their original forms. These are the parts of a flower we have to notice in the practical part of breeding. In their natural state the Almighty has so constructed the several organs of generation, to increase, that impregnation which is absolutely necessary for the production of seed, is effected, in some plants especially, by most beautiful and interesting phenomena.

The Passion Flower is well worth the observation of all interested in the wonderful manner in which God displays the wisdom of his designs for the perpetuation of a species. The insect creation also forms a portion of the machinery for carrying out the designs of the Almighty, and you have but to watch the Bee for an example of this, flying from flower to flower with her legs encompassed by a ring of a yellow looking substance, which is pollen collected by her for the manufacture of her wax, and may be on her way impregnating your Cucumbers and Melons, or other things in a manner which will somewhat surprise you in another year.

Now when we wish to have a plant produced from the union of two distinct plants, we must see that neither by the natural shedding of the pollen nor by the insect are our experiments frustrated. It must be borne in mind, that not only Bees, but many other insects will impregnate a flower by conveying pollen one from another. We must cut the anthers of the flower we intend to operate on off before they are ripe, and we must keep the insect with her dusty legs away also. The stigma being ripe and ready to receive the pollen, I take a ripe anther by its stem between the finger and thumb, and draw it across the stigma to be impregnated. This will answer quite as well as the pencil, only it is more prodigal of pollen. Generally speaking, to be in a proper state to receive the pollen, the top of the pistil or stigma becomes glutinous, but not always so. It is, however, impossible here to do more than point this out to you, so that you may observe for yourselves. Without close observation, you may fail to get any cross at all by the application of your skill; and herein lies one of the great charms of the science; to watch the progress and development of your favourites through all the stages of their interesting history, from the bud to the period when they have accomplished the ends of their beautiful existence! After a while the pollen placed on the stigma will imbibe so much of the fluid as will cause it to burst, and the mixed juice will circulate through the pistil or style into the ovary. There are various conjectures as to how this impregnation is effected by the pollen, or how it finds its way into the ovule or embryo seeds; but the truth is that the process of the union is a perfect mystery. Sufficient is it for us to know that a union is

effected, and a definite result as to impregnation attainable. I have said that the stamens should be removed from the flower to be operated upon; and not only these but the petals of the flower may also be removed if they at all obstruct the process. This was at one time doubted, but as petals are merely stamens converted into floral leaves, there can be no more harm in removing them than the actual stamens. I have tried many experiments, and have quite satisfied myself as to this,—that we can impregnate a flower quite as well without the petals as with them. It is useful to know this because there are many flowers which it is difficult to cross properly, such as trumpet-shaped flowers unless the petals are removed.

Experiments confirm, as far as I have observed, that style of growth, vigour of foliage, &c., will be chiefly regulated by the characteristics that belong to the plant that possess the pistil, while the flower and other parts of reproduction will be influenced by the plant from whence the pollen was taken. If we take the pea for instance and cross some of the fine large varieties with the small hardy sorts, we would only be deteriorating the mother plant; but if we cross the small hardy early sorts with the marrow or other large well-flavoured pea, we are likely to obtain a fine pea, having the flavour of the male parent, and the habit and hardihood of the mother. In like manner if we have a Fuchsia or other flower of a luxuriant habit of growth, but not prolific in flower, we should cross it with a less vigorous growing variety, but having a habit more prolific of flowers expecting to obtain a satisfactory reward. Or take a Scarlet Geranium. We have a fine foliaged plant, but few flowers, we take a cross with a free flowering, large trussed variety, and we improve both. But I must pass on or my observations will become tedious. And I come now to the more immediately useful portion of my remarks, which relates to the improvement of our flowers.

Cross breeding aided by cultivation gives birth to those splendid objects of the gardeners care double flowers. I presume that the most enthusiastic sticklers for the beauties of their own dear botanical specimens of single flowers, will grant that the double roses of the present day are a great improvement on the single row of petaled briar. It seems almost incredible that the beautiful double moss rose should be a legitimate descendant of the briar, or that those splendid double Camellias which we now have are the offspring of a single flower: and the Dahlia again! It is nevertheless true. Double flowers are correctly discriminated as the full flower and the multiplicate flower. The full flower is a flower with its petals augmented by the conversion of stamens into petals. Many petaled flowers only, undergo this change, such as the Rose, the Dahlia, the Carnation, and the Poppy. Single petaled flowers, such as the Verbena, the Petunia, the Geranium, &c., seldom undergo this metamorphosis; but we increase their size, beauty, and diversity of colour by proper attention to cross breeding and cultivation.

The stamens of the Rose, for example, are very numerous and are arranged in *whorls*, that is to say rings. In the process of formation of a double Rose, one or more of the rings of stamens are converted into petals, and in a double Rose all traces of the stamens have disappeared. Now although the male organs or anthers have disappeared from a double Rose, the female, or stigma and style has not, so that we can continue to cross from another less double flower having some property of colour or habit that we wish to impart to the other. And here I may mention that pollen will retain its vitality for a long time. I firmly believe that if it could be kept perfectly free from moisture, we might have it sent from England on particular occasions. I have kept it for six months, and been successful with it; so you see you may carry

pollen from some of your neighbors' fine plants, for a cross with another fine one of your own.

Turning to the results of practice in endeavouring to obtain double flowers, the following general propositions may be looked upon as guides. To obtain double flowers from seed, dependence must not be placed upon the influence of a stray stamen, but means must be taken to superinduce a highly elaborated plethoric habit in the seeds. The plant must be stimulated by high cultivation when the flower buds appear, and then by removing after flowering a great portion of the seeds. If the stimulus be applied too early it will be applied to increasing the luxuriance of the plant, but if applied as the flowers make their appearance, a greater degree of strength is conveyed to them. By thinning the flowers or seed vessels as soon as they flower, so as only to have a very few seeds to ripen, these acquire a full habit, and it is well known that this state is opposed to fruitful productiveness, while the less luxuriant habit produces great fruitfulness. We do not expect much seed from a double flower, and such plants as Hollyhocks for instance, while though often said to be double, are really not so, and the rendering them more double must be obtained by high cultivation and the seed thinning process. In double composite flowers, such as the Dahlia, which consists of a number of complete florets on a common receptacle, most of the florets may have their organs of reproduction changed into petals, while others may be unchanged, and from these seeds may be produced which will give more double flowers than if they had been saved from the single varieties.

For the production of double flowers, a full exposure to light is as essential as an abundant supply gain of nourishment. Here the pruner may some information about keeping his trees thin for the production of fruit. From experiments I have proved that a due supply of moisture, a superabundant supply of decomposing organic matter to the roots and exposure to light, are the means of promoting excessive development of petals which compose double flowers. But it is not to the production of double flowers alone that I wish to enlist your aid. I wish to call your attention to the facilities which exist for increasing the size, beauty of colour, and habit and form of many popular flowers. The Verbena, the Petunia, and many others for example. There are also many of the fruits and vegetables of cooler climates, which may be induced to adapt themselves to the changed circumstances of climate, influenced by a careful adaptation of the principles of Cross-breeding. For instance, why should not the Strawberry be improved. The Alpine variety bears admirably, while the more excellent varieties now cultivated in Great Britain are worthless here, in a bearing point of view. Let anyone take this, one of the most delightful of fruits, under his especial care for Cross-breeding purposes, and I venture to predict results that will well repay any time expended on it.

When a flower has been crossed, or impregnated it must be carefully covered with gauze, marked, and a note of the kind of mark, and the circumstances of the cross must be jotted down in what may be termed a kind of studbook. For as much method must be observed in breeding in the vegetable world as in the animal.

I would draw attention also for crossing purposes to the many Native plants we have, which could evidently be improved. See, for instance, how the Epacris has been changed by cultivation and Hybridising in England; why not here then in its native habitat? But it is needless to dwell upon the many subjects that would submit themselves to the skilful hybridizer with the most satisfactory results. One thing, gentlemen, let me impress upon you, not to sow seeds expecting to get new and improved varieties, unless you carefully impregnate beforehand. True, in this way you

may by chance, get an improved variety of a fruit flower, or vegetable, but the chance is remote, whereas, by proper attention to crossing the flower of any plant that it is intended to improve, with the pollen of a flower selected as the male parent, you may to a certain extent ensure success.

I would now for a few moments call your attention to sports in flowers or even fruits. Many of you have, no doubt, observed that a plant would produce a double flower on some side branch, or a peculiarly marked single flower, distinct in every respect from the real character of the plant. Now if these sports be of any value, they should be secured at once, by being detached from the parent stem and struck as cuttings; you can easily do this you know with most plants. I have said sports should be secured at once, because if left for a while, the sap or blood altering day by day may send the sport back into its original form. Two days after its appearance a sport may be changed; so secure it at once. I remember being, what is here termed, considerably sold, by a sport in a Gloxinia. An experiment was suggested by the clever gardener I have already named in this paper, as to whether two buds could be caused to unite, so that the plant formed would inherit the properties amalgamated, if I may so term it, of the two kinds of plants in one. I was younger then than I am now, and as I had a garden to fly to for experiments always, I went into the matter *con amore*. I fancied I had succeeded in solving the problem and got a bulb formed from the union of two distinct Gloxinia leaves. When it flowered I was in extacies, as I really had two distinctly marked varieties of flower on the plant. I sent specimens of the flowers to the Editor of a London Magazine, devoted to Botany, and this was the reply I got. "We have received your box of Gloxinia flowers. They are a not uncommon sport of a well known Gloxinia and are very beautiful." So much for my first experiment; but I must close.

Gentlemen,—I fear these desultory remarks will but faintly convey to your mind the fascinating attractions and very delightful experience to be gained, by devoting a portion of your time to the study of the subject to which they refer. I found, as I went into the consideration of a few of the points involved in a discussion of the science, how utterly impossible it would be to confine it to a short paper like this and do justice to it. I therefore forced my way through much that should have been gathered up and explained; I trust you will excuse me, and believe that if, in occupying your time, I have afforded you neither instruction nor amusement.

Mr. Ferguson's paper on "Ornamental Planting" was then laid before the meeting.

Very interesting discussions took place on the papers read, and the unanimous thanks of the meeting were awarded to Mr. Middlemiss for his interesting paper, and to Mr. Ferguson for his practical remarks and suggestions. The meeting also desired to thank Mr. Fitzalan for his donation to the funds.

On the table were Dahlia seeds exhibited by Mr. Boysell; a plant of Cyclamen persicum by Mr. Barton; and a very handsome species of a Saxifraga by Mr. Myles, (gardener to J. Calvert, Esq.)

The following gentlemen were proposed as Members:—Messrs. Robert Balding, Henry Harvey, Ryrie-street, Frederick Harvey, A. Hayward Sillitoe.

Mr. Batson promised a paper on "Vine Pruning" at the next monthly meeting.

[We much regret having to hold over Mr. Ferguson's paper until next number, our columns being unusually over-crowded.—ED. G.]

Port Phillip Farmers' Society.

The annual general meeting was held at the Mechanics' Institute, Melbourne, on the 4th instant, the Hon. Donald Kennedy in the chair.

The Secretary read the report, which stated that the Committee felt justified in affirming the material progress of the Society,—its increasing usefulness, and the success attending its operations during the past year. The resources of the Society had been crippled by the plan of distribution of Government moneys adopted by the Board of Agriculture, and therefore it became a question with the Committee whether it would be possible to maintain the prize list of former years. It was ultimately decided to do so. Renewed negotiations had been entered into with the Government relative to the extension of the Society's Show Yards, and the tenure on which the present yard is held; and a communication received in reply, offering extended space on the same terms as the present yards are held, viz., permissive occupancy.

With reference to the exhibition of live stock, several important changes and additions had been made in the classification, and others moved to be effected as soon as the Funds of the Society permitted. In none of the classes was the want more felt than in those for Sheep, annually assuming a more prominent position in the Society's Exhibitions.

Accompanying the contribution of Grain from Adelaide, was a communication from the President of the Agricultural Society there, suggesting the interchange of prize samples on future occasions; and the Committee heartily sympathise with the idea, and have no doubt this course will be approved of by the members.

The report having been adopted; Messrs. Lyall, M.L.A., Mackintosh, M.L.A., W. Clarke, and R. F. Greene were elected to represent the Society at the Board of Agriculture.

After a great deal of discussion, it was decided that all future prizes shall be awarded in money or plate at the option of the successful exhibitor.

Castlemaine District Horticultural Society.

It is gratifying to be able to announce that the horticulturists of the Castlemaine District have formed themselves into a society similar to those already in existence in Melbourne and Geelong; the preliminary meeting was held a few days since, and office-bearers appointed. From the names of the gentlemen chosen, we should imagine that the Society commences under most favorable auspices, and it will, we trust, meet with the success it deserves. The idea at one time of amalgamating it with an Agricultural Society was judiciously abandoned, the feeling being that they would not work harmoniously together. The Honorary Secretary is Mr. E. W. Bagshawe.

Ploughing Matches.

Smeaton, Spring Hill, Bullarook,

Took place on the 20th instant near Creswick; the ploughing was unmistakably good, and an evidence of a growth of a better system of agricultural ploughs amongst our farmers. Twenty-nine horse teams entered in Class A, and the first prize was taken by John Mines, ploughman to Mr. J. Ogilvie; and the second by William Read, ploughing for Mr. A. Wilson. In Class B, bullock teams, the first prize was awarded to J. Smith, ploughing for Mr. William Sim; and the second to W. McAnslin, also employed by Mr. Sim.

D. Creighton, ploughing for Mr. McAndrew, took an extra prize for the best pair of horses competing.

Whittlesea Agricultural Society.

This match was very successful. Twenty-one teams were entered, but two of them being bullock

teams, did not compete, there being no separate class for them. In Class A. John McNeal, ploughing for Mr. A. Hatty, took the first prize of £6; and William Sparrow, ploughman to Mr. McMenzie's, the second, of £4. In Class B, Robert McGraw, ploughing for Mr. Patton, was awarded first prize; and in the Boys Class, Charles Creighton carried off a first prize of £5; and Alexander Hatty, a second one of £3.

Donnybrook Agricultural Society.

At this match which came off on the 25th ult., William Sparrow, who took a second prize at Whittelee, carried off first prize; and John Moroney first for bullock teams.

For the best team of mares or geldings, first and second silver medals were awarded to Messrs. J. and A. Hatty, and the latter gentleman also took a silver medal for the best team of bullock.

Gisborne Agricultural Society.

On the 19th ultimo, a very interesting match took place, at which, in the Horse class, Alexander Carlow took first, and Alexander Caldwell, second prizes. In the Bullock class, John Brodie took first, and James Hamilton, second. In Boys class, the first prize was awarded to John Twiddle.

The following extra prizes were thus awarded:—

For the best Team of Mares or Geldings—First prize, Mr. H. Campbell; second prize, Mr. J. Watson.

For best Bullock Team—First prize, Mr. James Kerr.

Bitto worked in Harness—First prize, Messrs. D. and D. Junor.

Connewarre Agricultural Society.

This annual match took place on the 18th ult., at Charlemont, the residence of James Noble, Esq. Seventeen horse and six bullock ploughs competed. Commencing at about half-past nine, and finishing by half-past three.

The successful competitors were—

Horse Ploughs—First prize of £8, A. McDonald; second prize of £6, John Scott.

Bullock Ploughs—First prize, £5, James Morrow; second prize, £4, Harry Dewing.

Boys' Ploughs—First prize, £3, — Herd.

Mr. Underwood took first prize for best pair of horses matched; and Mr. Noble, second; and for the best team of bullocks, Mr. Vagg and Mr. Underwood took first and second prizes.

The hospitality of Mr. and Mrs. Noble to the Judges, Committee, and their friends, as well as all the ploughmen, was highly appreciated.

Villiers and Heytesbury Agricultural Society.

The first match this season was held at Wollaston (Mrs. Simpson's) on the 20th ultimo, and the work was most creditable throughout.

J. Johnston, ploughing for Mr. Thwaites, took first prize; and R. Bruce, ploughing for Mrs. Thomson, second prize.

In Youth's class, J. Maloney took first, and W. Read, ploughing for Mrs. Simpson, second prize.

Mr. Macgregor's prize for straightest furrow was won by Stewart Robinson.

The second match came off at Yambuk, on the 27th June, and the attendance and workmanship reflected great credit on all parties concerned; this was the first match held in the immediate district, and whilst it must be gratifying to the Association to find its efforts so well appreciated, we trust the farmers of Yambuk will reciprocate by a hearty support of a Society so well calculated to advance their interests.

Eleven teams, one of which was drawn by bullocks, started, and the work was throughout so excellent, that the judges had some difficulty in coming to a decision.

Thomas Johnston, ploughing for Mr. Thwaites, took first prize; Michael Sinnott (youth) for Mr. Sinnott, second prize.

To Mr. Thwaites was awarded prizes for the best team of horses, and best harness, and to Mr. Harman the prize for straight furrow.—*Banner of Belfast.*

Indented Heads Agricultural Society.

Forty-five ploughs were entered at this match, which took place on the 26th ultimo, and four more although on the ground were unable to start for want of space. The ground chosen was a paddock of Mr. McKillop's, on the Drysdale and St. Leonard's road. The landowners and agriculturists of the neighbourhood mustered in great force, and the proceedings were highly satisfactory.

In the Champion class, the first prize was awarded to James Pitcher, and the second to Donald Williamson, junr.; and, in the second class, the prize was won by Walter Wylie.

Burrunbeet Agricultural Society.

From the short notice given of this match, which took place on the 24th ult., only 21 teams—15 horse and 6 bullock, were entered; but in spite of this, and the ground not being particularly favourable, the work was considered excellent. Each team had to plough one-third of an acre, the furrow being $4\frac{1}{2} \times 8$ inches, the ground to be gathered up into two lands.

The sum of £33 10s. had been collected for prizes, and in Horse Teams, A. Summers, took first; and James Anderson second prize. In Bullock Teams, Mr. Gilmore, first; and R. Smith, second.

To John Draffin, a first prize was awarded in class for boys under 16 years; to A. Summers £1, for best finish; and to W. Gilmour, for best ploughed land.

Kew Agricultural Society.

Some admirable ploughing occurred at this match which took place in a field belonging to the Hon. T. H. Power, M.L.C., the late rains having left the ground in first-rate condition. In Class A., Henry Sandlands was awarded first, and James O'Grady, of the Experimental Farm, second prize. In Class B., Christopher Baker took first, and Michael Mahan, second prize.

Barrabool Hills.

This Match, which came off on the 10th inst., at Mr. Samuel Herd's farm, was an exceedingly successful one; the attendance being large, the land in nice order, and the ploughing particularly good. After the match, the competitors and visitors sat down to dinner at the Wheat-sheaf Hotel.

Colac.

The Match of the Agricultural Society, took place on the 4th inst., on the farm of Messrs. Bouchier & Job. Owing to the unpropitious weather, the competition was not very great; but the ploughing by horse teams in particular was very good and well contested. Henry Rattray took first prize in this class; and David Proser the bullock team class.

LOVE LABOUR—if you want it not for food you may for physic.

Correspondence.

To the Editor of the *Agricultural and Horticultural Gazette.*

Church Mission Station, Yelta,
Darling Junction, Lower Murray,
June 17, 1861.

Sir,—I send for the information of your readers a few facts relative to that very troublesome pest the Aphis.

In the year 1857, the whole of the Cabbages in our small garden was entirely destroyed by it; but early in the following year a friend gave me a few seeds of the *Holcus Saccharatus*, which I planted, and they grew and flourished. After a short time, I found the plants much infested with the Aphis, but without appearing to injure them. Since that time I have found that so long as any plants of the *Holcus*, and Millet, or Indian Corn, have been green and flourishing, the Aphis prefer to remain upon them and leave the Cabbages and its varieties untouched; but if by chance the above named plants have been allowed to wither or die down, then the Cabbage, &c., is immediately infested.

The first year I looked upon it as a mere coincidence; but as I have found the same thing to occur each year since, I deem it my duty to mention it, in order that others may try the same plan.

The climate is so mild here that the *Holcus* and Millet remain green all the year; but owing to the extreme dryness of the climate, we can grow nothing without irrigation; and for this purpose the water has to be raised by pumps from the river, twenty to thirty feet; of course cultivation to any extent cannot be carried on without a considerable outlay of labour and money. We have now had four dry seasons, and as yet very little rain has fallen this winter. Unless we soon get a fall, it will be a very serious matter for stockholders in this district, as there is no water in the back country, and no feed on the river frontage. Lambing is close at hand, and, with this state of the country, it is not likely to prove very productive.

THOMAS HILL GOODWIN.

To the Editor of the *Agricultural and Horticultural Gazette.*

June 29, 1861.

Sir,—The extract from the *Pioneer*, in your *Gazette* of the 23rd instant, relative to the Lowan or (*Leipoa ocellata*), is not a true account of the mode of hatching employed by that bird. The Lowan is also an inhabitant of the Mallee at Lake Hindmarsh, and its mode of proceeding is as follows. About the month of June or early in July, the male and female commence to form their nest, by excavating a hole about two feet deep, and the same in diameter. They then collect all the grass, decayed leaves and twigs, within a circle of ten or fifteen yards from the nest, by walking backwards and scraping from the circumference to the centre, leaving the ground clean as if swept with a broom. As Spring approaches, the contents of the hole begin to ferment and give out a great heat. The eggs are then laid (about October) and covered much in the way mentioned by the *Pioneer*, but the sun has nothing to do with the hatching. I have inserted my arm up to the shoulder in the nest, in cold wet weather, and found it very hot among the fermenting materials at the bottom, disagreeably so for eggs, I should say.

A.

The next number of the "*Gazette*" will be published on the 14th of August.

SUBSCRIPTIONS received since our last issue:—

Subscribers				Received since our last issue					
	£	s.	d.		£	s.	d.		
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Mr. Hodgetts	..	0	7	0	" C. Nantes	..	0	8	0
" James Henty	..	0	15	4	" A. Clarke	..	0	7	0
" S. W. Henty	..	0	15	4	" Learmouth	..	1	2	4
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" Atkinson	..	0	8	0	" A. Douglass	..	0	8	0
" Antill	..	0	7	0					

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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 9.

AUGUST 14, 1861.

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FARMING OPERATIONS FOR AUGUST.

Prepare land for Potatoes, Mangold, and Beet, to be sown towards the end of this, or during next month. In fact, the sowing of these roots may, according to the season be extended to the end of October; but for Potatoes, the last week in August and the first three in September, may be said to be the safest time for planting—except in the high lying country,—where the frosts remain pretty severe until the beginning of October. The Mangold and Beets do not, however, suffer from the frosts, and any time in September or October will do for them. The land intended for these roots, should be liberally supplied with a strong coating of rotted manure, well ploughed in and covered over for a month or six weeks; then the drills should be drawn out and planted. This plan of applying the manure generally over the land, and burying it thoroughly for a few weeks while the ground is damp, is far preferable to that of laying it in those drills only that are intended to be planted, because when once buried there, it only supplies food to those roots of the plants that may reach it, while it assists to a certain extent to drain the moisture away from the soil above it; whereas, if incorporated with the soil generally, the leaves, as well as the roots, derive advantage from its general decomposition.

It may not be too late during the first half of this month, to sow English Barley on good, rich land. Peas and Beans should also be sown this month, as also Parsnips and Carrots,—the latter two in well prepared, deeply ploughed, light soil.

Grass lands and Lucerne should now receive their Spring top-dressing, or be supplied with an equivalent from the liquid manure tanks. Grass seeds may still be sown advantageously on clean land, but it is rather late to sow them among the Hay crops. Among all the Grasses we have seen tried in the colony, there appears to be none equal to one of recent introduction, known as the Prairie Grass. The plants of this grass seem to stand any amount of heat and drought, and produce enormous crops.

The Wheat and Oat crops that have not yet been rolled, should be immediately subjected to that operation, where the ground is not too wet to admit of the cattle going upon it. The horse-hoe may also be kept going through the Wheat crops to keep down the weeds, and to loosen the soil.

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

The Geelong and Western District AGRICULTURAL AND HORTICULTURAL SOCIETY.

THE GREAT
ANNUAL EXHIBITION
Of this Society for
CATTLE, HORSES, SHEEP, PIGS, POULTRY,
PRODUCE, IMPLEMENTS, &c.,
Will take place on the Society's Grounds, Ryrie Street east,
On Thursday, 5th September current.

PRIZE LISTS and every information may be obtained from the Secretary at his office, 81, Moorabool-street, where Member's Tickets, (£1 1s. each) for the current year, are now ready.

JAMES CAMPBELL,
Secretary.

Victoria Buildings, Geelong,
June 7th, 1861.

Horticultural Improvement Association.

GRAND EXHIBITION
OF
PLANTS, FRUITS, AND VEGETABLES, to be held
at the MECHANICS' INSTITUTE, Geelong, on
THURSDAY, 19th SEPTEMBER, NEXT.

The Secretary will be in attendance at the Mechanics' Institute, between the hours of 10 and 6 o'clock, on the SATURDAY and MONDAY preceding the day of Exhibition, to receive Entries.

Prize schedules may be obtained of Mr. W. Clarkson, Ryrie-street, or any Member of Committee.

SAMUEL HANNAFORD,
Honorary Secretary.

Seed Wheat.

FOR SALE, 350 Bushels of White Velvet Seed Wheat.—
Apply to

ALFRED DOUGLASS & CO.
Victoria Terrace, April 15, 1860.

Ploughs. Ploughs. Ploughs.

THE undersigned are now landing Messrs. Gray and Co.'s celebrated best Light Two-horse Prize Ploughs, steel mould boards, extra mountings, coulters, &c., complete.

HOLMES, WHITE & CO.,
Geelong.

Harrows. Harrows.

THE undersigned are now landing, ex "Morning Light" and "Florine," from Glasgow, Messrs. Gray and Co.'s celebrated Zigzag Angled Iron Harrows, two and three in a set.

HOLMES, WHITE & CO.,
Geelong.

Land should also be prepared now for the different varieties of Millet and Sugar-cane. These, particularly the latter, are two of the most valuable plants ever introduced into the country as green fodder; and they fatten all description of animals that feed upon them.

See that the draining furrows and underground drains are kept well open, to carry off the surplus water from the land.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

THE views of any Contributor of known integrity and intelligence, upon subjects of public importance, will always find a place in the "Gazette," if space permit, and they are free from intemperate language and personalities.

BONES. (Vinegrower, Duneed).—Bones are very much superior to Guano as manure for your vineyard; and the largest sized bone dust will be the best for you to use. But, unless your soil be very stiff and poor, we do not recommend manure at all. If your soil be stiff clay, burn it, that will be better than any manure.

TREES FOR A SCREEN. (B. B.).—If you want a very quick growing tree, but not in our opinion a very ornamental one, you will plant the Blue Gum; but we strongly advise you to plant, at the same time, some of the many quick growing Conifers, which may now be had of the nurseryman, so that in time you can cut away the Gums, and have really beautiful trees in their stead. Blue Gums are very well as forest trees, but not for a garden.

CHICORY. (B. S.).—We have given a "hint" about this in our present number. It is extensively cultivated in England for the sake of its roots, which are used as a substitute, or to mix with, Coffee. We believe it to be wholesome; and we know that the flavour, after roasting, is very agreeable. We grew it in England, and realised £50 an acre by it. At that time, upwards of 2,000 acres were devoted to its culture in Yorkshire alone, and these are said to have produced upwards of £110,000. Why not try it?

CLIMBERS FOR A DEAD WALL. (Tyro, St. Kilda).—The Dolichus Lignosus will perhaps cover it quicker than any other Climber will; but if you can have a little patience, it is not by any means so desirable a Climber as any of the following, which will grow admirably in the open air against any wall:—Tasmania Manicata, Tecoma jasminoides, Jasminum Grandiflora, and Bignonia Grandiflora.

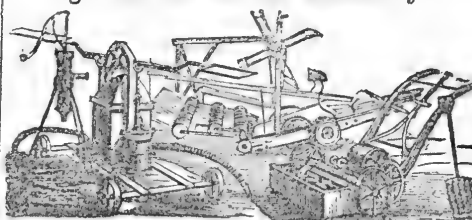
AMERICAN BLIGHT. (Fos., Geelong).—Unfortunately, this is already too well known in this Colony. It is an insect, *Eriosoma lanigera*, and is injurious by piercing the sap vessels of the tree, sucking the juice, and causing wounds which ulcerate and finally destroy the branch attacked, by corroding through all the sap vessels. The white cottony matter is abundant, and being wafted to other trees by the influence of the wind, the eggs are conveyed from tree to tree, and the infection spreads. The male insect has wings, and it is quite probable, though they all have not, that some of the females have wings also, and so the disease is diffused in this way as well. In winter, the insects retire underground, and prey upon the roots of the tree. The roots of your trees should be bared and saturated with ammoniacal liquor from the Gas Works, or washed with a mixture of sulphur, cow-dung and lime; and the branches should be scrubbed with a brush, and washed with a similar composition. We are trying touching them with oil.

PREPARATION OF MANURES.

THE preparation of Manure, as was stated in a previous number, is a matter of much greater importance than nine-tenths of our agriculturists believe, because in the loose and slovenly way in which the greater number of our dung heaps are prepared, more than half at least of the real fertilizing power of the manure is lost. In the preparation of Manures there are two things to be studied—the climate and the nature of the soil. In a warm climate and on a strong clay soil, unputrified manure may be applied with advantage, because the process of fermentation will not be retarded, but rather encouraged, after it has been buried in the soil, and the land will derive all the benefits of the gases exhaled; but on light soils no manure should be applied that is not thoroughly rotted and decomposed, for this reason, that light sandy soils are not benefitted by the fermentation of the manure, but by the application of the rotted mass after fermentation has ceased. It is still doubted by many whether all manure for any kind of soil and climate should not be thoroughly rotted before applied; because, they argue, that the process of fermentation destroys the eggs of insects, and the seeds of weeds, which otherwise would spring into life if the mass was applied in its undecomposed state. In this view of the case, we feel inclined to concur, because the destruction of so much insect and vegetable life is of more importance than any advantage to be gained by ploughing hot or long manure into the stiffest of soils.

It must be pretty well known to all persons who have travelled through our agricultural districts that by far the greater portion of the Colonial manure heaps are bleached of their virtue long before the time arrives for applying them to the land. They are nothing more than heaps of dung, straw, and other waste—that is where any trouble is taken to collect such waste—thrown carelessly together, exposed to the full action of the sun, wind, and rain, and allowed to ferment and putrify, without any effort being made to retain those volatile vapours in which nearly all the virtue of manures lie. Nor is there any effort made even to save the drainage from these heaps, which in itself would be of

Agricultural General Machinery.



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more value than they are. It would be a liquid manure of the best quality.

In the preparation of a dung-hill, or pit, there cannot be too extensive an admixture of rubbish and refuse of all kinds. Animal and vegetable matter may be freely mixed together, and even mineral ingredients may be added, such as lime or marl. Regular days, say once a week, or once a fortnight, according to the size of the farms, should be set apart for the collection of the farm waste, in order to add it to the manure heap; nothing should be omitted. Stable and stockyard manure, old rags, hedge clippings, ditch clearings, bones, old boots, straw, turf, leaves, paper, seaweed, shells, fish, dead animals, everything in the shape of waste animal and vegetable matter should form a portion of the intended dunghill. But these substances must not be simply thrown together in a heap, and then be left exposed to the full action of the weather. The great secret of their ultimate virtue consists in securing those very exhalations which, in their unprotected state, fly off and mix with the atmosphere, instead of being buried in the ground to amalgamate with, and to fertilise it.

There are but two ways of effecting this great desideratum, these are, either by allowing the manure to lie in small heaps about the stables, or cow-houses, and stockyards, until it begins to ferment; and then removing it to the site of the intended heap, taking care to tread it well down into a compact mass, and immediately covering it securely with a crust of earth, to prevent the escape of the ammonia, until another lot of the same material shall be ready to be placed above it; when the surface coating of earth may be removed, and again replaced when the addition has been made, taking care however to have a tank of some kind on the lower side of the heap, into which all the rain drainage of the heap should be led, for use as a liquid manure. Or, what we conceive to be a far better plan, to have pits prepared for the purpose, into which every particle of such waste as we have already noticed should be thrown, and well trodden down. In this case there would be no chance of either evaporation or drainage diminishing the virtues of the manure; and the rotting would take place

more effectually and more thoroughly. The carts or wheelbarrows, as the case may be, that brought their contributions to these pits should be made to go over them at every visit, in order to keep the material as solid as possible. These pits might be made of any size, according to the extent of the holding, and in most cases, two of them would be sufficient, because by the time the second was nearly filled up the first would be ready for cutting out, and might be removed to the field it was intended to manure; and managed in the same way as recommended for the regular manure heaps, being well covered up with earth till required for spreading over the land.

Many people have an idea that straw in large heaps, as left after threshing machines, makes a first rate manure, if allowed to rot in these heaps; but although such manure is of some service to the land, yet a great waste takes place in not passing this straw, and all the refuse of threshing time, through the cowhouses, stables, or stockyards, on the farm, before converting it into manure. It should be the aim of every farmer to get his grain threshed out as close to his stockyard, or milking yard as possible, in order that the least possible trouble may be required in transferring the straw to these places. After the first supply has been trodden down for a fortnight or so, and thoroughly saturated with the excrements of the animals, and the drainage of the yard, add a fresh supply without removing the first, keeping it however as much as possible on one side of the yard, so that the cattle may not be compelled to stand up to their fetlocks or knees in the heating straw. Remove this mass as occasion presents, to the dung-pit or dung-heap, to be disposed of as already directed. It will, by being subjected to this process, have absorbed and retained all the ammoniacal virtues of the yard that would otherwise have been lost entirely to the agriculturist.

Composts, or admixtures of mineral earths only, of some richness, may be prepared by a little of that careful attention which is necessary to turn everything to the most profitable account; but there is more trouble and time required for these than for the regular manure. In collecting farm waste of every description, two

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advantages are gained; the removal of matter that would promote the growth of weeds, or the harbouring of vermin and insects, and the accumulation of matter for the manure heaps; therefore there is no labour and no time lost here. Every thing that is done towards increasing the bulk of the manure, and adding to its richness, is profitable.

GARDENING OPERATIONS.

Sow Carrots and Parsnips in rows; the former fifteen inches and the latter twenty inches apart, and an inch or so deep. These should be sown at once. Onions should also be put in at once. Sow Red Beet about the end of the month. Plant and sow Cabbage and Cauliflower. Sow succession crops of Peas. At the end of the month try a crop of French Beans. It is too late for Broad Beans. Earth up Celery. Cover up Seakale for blanching. Tie up Lettuce; also plant and sow. Sow Radish, and other small salads. Sow round-leaved Spinach in rows fourteen inches apart. Plant Potatoes.

In the *Flower Garden* all planting should be finished at once, and seeds of the hardy annuals may be sown. In an early number of our present volume, a very excellent article from the pen of a practical cultivator, on the Culture of Annuals, appeared, and we would call attention to that useful paper now, that the amateur may see how and when to sow.

SEASONABLE HINTS.

Asparagus.—Any Asparagus beds that were left undressed at the beginning of the winter season should be attended to at once, ere the young shoots begin to make their growth. If our remarks as to planting Asparagus have been attended to, the roots will be in rows, marked with a stout peg at each end, so that there will not be much difficulty in knowing exactly where the roots are; and some well-rooted manure, or a little Peruvian or Australian guano, should be carefully forked in between the rows. In old beds, where the plants may not be in rows, a little guano might be forked in, great care being taken that the prongs of the fork do not get below the roots, so as to break and injure them. Asparagus, as we have often said, likes a rich soil, and if supplied with nourishment at the beginning of the season, it will throw up strong and tender grass that will well repay any little extra trouble taken with it.

Rhubarb.—This, like Asparagus, or even more than that plant, likes manure, and old plantations of it should have a thick coating of rich old well-rotted manures dug in between the rows, and amongst the plants, so as the main roots are not injured. In light and rather dry soils, the earth should surround the roots in a kind of dish shape, to afford facilities for giving a plentiful supply of liquid manure, when the dry weather comes. Without abundance of moisture, the plants will soon run to seed, and the leaf stems get hard, sticky, and worthless for culinary purposes.

Mushrooms.—In a previous volume we gave directions for the culture of Mushrooms; but

some of our new subscribers may not have seen the remarks then made, and may be benefited by having their attention called to them here. Any one who has the means of obtaining a little dung from the stable or cowshed, can supply themselves with a Mushroom bed which will supply them for a length of time when properly spawned. The dung should be mixed with a sufficient portion of loam or good fresh soil, to prevent its becoming too much heated. The whole should be well shaken up and mixed together, and should then be firmly beaten, not trodden, into a bed about eighteen inches or two feet deep, formed on the surface of the soil; when it begins to heat moderately, pieces of spawn, which, no doubt, can now be obtained from the principal nurserymen, should be put in about an inch deep at a few inches apart over the surface of the bed, and the whole should then be covered with about an inch and a half of good fresh soil. The bed may be made in an open shed, and covered with dry litter, or it may be made in the open air; but in that case some kind of protection from heavy rain must be provided, or the spawn might perish ere it began to run fairly. Of course, as the bed gets dry, it will require watering now and then; and if the water be tepid, say 65°, it will be all the better.

Cucumbers and Melons.—Those who intend to have an early supply of these will have to adopt frame culture, and should proceed at once to get some manure together for the purpose. A hot bed of manure is a most useful addendum to the gardener's skill at this period of the year, not only for raising Cucumbers and Melons, but for striking cuttings, and raising seeds of the more tender and rare plants. Of all the systems of bottom heat there is none like the bed of stable manure when properly prepared; that is, it should be well tempered by frequent turnings and shakings, so as to have some of the rank heat taken out of it ere it is made up into the hot bed; and to ensure its retaining a mild heat for a length of time, it should be firmly beaten with the back of the fork when being formed into the bed.

Cucumbers from cuttings.—There are few who have grown either Cucumbers or Melons, who have not sometimes suffered great disappointment from seeds not turning out true; and really the only way to ensure the true kind of any Cucumber one wants to retain, is to grow them from cuttings. Cuttings taken of plants in the autumn may be kept in pots during the winter, and cuttings may be again taken off these in spring, and so the variety, whichever it may be, can be kept true. Tomatoes may also be grown from cuttings, and these produce fruit quicker than plants grown from seed.

Parsnips.—This is a most useful root, not only for the gardener but the farmer also. Every one knows the value of a good Parsnip on the family table, but it is not so generally known that it is one of the most nutritive roots grown for feeding cattle, and especially pigs. We remember seeing pigs killed that had been fattened entirely upon Parsnips in a raw state, cut up into small pieces. The butcher said he had never seen healthier and more solid meat, and we vouch that the flavor of the parsnip-fed bacon was excellent. The present is a good time for sowing, and about seven pounds of seed will sow an acre. It likes a pretty good deep soil, and should be sown in rows or drills eighteen inches or two feet apart, to facilitate

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hoeing and cleaning. We recommend this root to the small farmer, for what he has to spare will sell well in the towns; and we know that on good soil the yield per acre in this colony will well repay the labour expended on it.

Chicory.—Whether this be a proper substitute for coffee or not must be left to the decision of those learned doctors who profess to know how to determine what man should eat or drink and what he should not, but this we know that it is used as a beverage, and that it has not proved as yet to be in any way detrimental to health while so used. And further, that there is a demand for it, and we see no reason why the demand should not be met, so long as people know that they are buying Chicory instead of coffee. And the time is now at hand when it should be sown. It likes a good deep soil, and where mangold wurtzel will grow well, so will Chicory. It should be sown in rows, twenty inches to two feet apart; and when the plants are up they may be left six inches apart in the rows. Its culture is very similar to that of the Parsnip.

Grafting.

NOTWITHSTANDING the art of Grafting is "as old as the hills," and there is very little new that can be said about it, it is nevertheless a portion of the science of Gardening in which there are fresh inquiries always arising, and we must in our endeavours to make ourselves useful to all classes of our readers, sometimes go over ground which is a well beaten track to many, so we offer a few observations on grafting, and first we take the—

Stock.—There is an old maxim that "the Graft overruleth the Stock quite," but this must be taken with some reservation, for although the Graft prevails and retains its qualities, the Stock has the power of influencing the productiveness of the future tree as well as the quality of the fruit. A kind of tree having a very robust habit of growth, with large sap vessels and vigorous circulation should not be grafted on a stock of an opposite character, for the supply of sap would not be sufficient, and this is why we see so many malformations in the stems of Cherry, Peach, and other trees; the selection of the Stock has not been a good one. There can be but little doubt about the more certain success of a tree or shrub when it is grafted on a stock that will supply it with sap from roots and through a stem of its own peculiar kind. If the Stock grows more rapidly, or has larger sap vessels than the scion or graft, an enlargement occurs below it which will account for the large rough warty looking excrescence so often seen on Cherry and other trees at the junction of the scion and stock. On the other hand if the graft be a more luxuriant grower than the stock, an enlargement takes place above the junction, and as the Stock grows more slowly the productiveness of the tree is interfered with, the supply of sap annually becoming less and less capable of sustaining the increasing extension of blossom and leaves. It is therefore very important to employ stocks for grafting, the growth of which is nearly similar to that of the tree from whence the bud or scion has been taken. The late Mr. Knight, one of the most energetic experimenters in gardening science, says,—"The practice of grafting the Pear tree on the Quince stock, and the Peach and Apricot on the Plum, where

extensive growth and durability are wanted, is wrong; but it is eligible wherever it is wished to diminish the vigour and growth of the tree, and where its durability is not thought important. As a general rule we recommend the grafting of each kind of fruit tree on stocks of its own kind. The Pear on the Pear, the Apple on the Apple, the Peach on the Almond or Peach, and so on, observing the relative growth of the scions with the stocks as already referred to.

The circumstances and phenomena upon successful Grafting, says an eminent authority, are as follow:—"It is absolutely necessary that the inner bark and the sap-wood of the scion should come in contact with the inner bark and sap-wood of the stock. It matters not whether the surfaces of the inner wood of the scion and the inner wood of the stock come in contact for they never unite." Now we agree with the first part of this extract entirely. No success will be attainable if great care be not taken to have at least one side of the scion placed in contact with the inner bark and sap-wood of the stock, and this must be borne in mind in selecting stocks of as suitable a size as possible. Now with regard to the

Modes of Grafting.—The objects of Grafting are to increase choice kinds of plants; to increase the vigour of delicate kinds; to reduce the vigour of too robust kinds; to accelerate the period of fruiting; to adapt kinds to soils for which they are not suitable on their own roots; and to renew or renovate old kinds with some others that it is not necessary to detail; and to accomplish these objects the following methods are adopted.

Tongue Grafting is the method most in use, and when the stock and scion are of about equal size, we do not think there is any better or more handy method. The head of the stock should be cut off as near the ground as possible, and a slip of bark and wood should be removed at the upper portion of the stock with a quick clean cut. (The operating knife should be thin and very sharp.) This cut is to fit exactly with a corresponding cut, which must be made in the scion. A very small amount of wood should be cut away, so that the barks of scion and stock, as already stated, should come together. The scion should have three or four buds on it, and one should be near the lower end to assist in uniting it to the stock. A sloping cut to correspond with the cut in the stock should be made, and a slight slit cut upwards should be made to fit into a similar slit or tongue made in the cut of the stock. This tongue is to fit the one into the other to assist in keeping the scion in its proper place until fastened. Where the scion and stock are of different sizes, and it is not possible to get both sides to fit bark to bark, one side at least must be made to do so, and the greatest care must be taken in this part of the operation. Some place two scions on one stem where the stock is large, but except in cases where Grafting on large branches or high, old stems is adopted, we recommend only one. The scion being properly adjusted, the whole should be bound, not too tightly, with a piece of New Zealand flax or a shred of bast-mat, care being taken in the tying that the contact of the bark with bark is not destroyed. Clay should then be put all round the joined parts to keep them moist and free from air, or the earth may, in cases where the stock is short, be heaped up to effect the same purpose, and the whole is left

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BENJAMIN SCOTT,

Agent, Moorabool-street, Geelong.

till the scion exhibits signs of having taken when the binding must be gradually removed so as not to cut into or interfere with the growth of the bark.

Crown or Wedge Grafting, also called Cleft.

—In this method, a cleft or deviation is made in the stock, and the scion made like a wedge, is inserted into the cleft, the bark being brought into contact as in the former case. Where the scion is smaller than the stock, the cleft in the latter should be made near the side, the stock having been cut straight across, and the bark of both sides of the scion may be made to come in contact with the bark of the stock. Camellias, Cactuses, Roses, &c., are most frequently grafted in this way, and growth is promoted if a bud or two be on the scion near where it is inserted to the stock. The wound is bound over as in the former method, and covered over with clay. The best time for this kind of Grafting is just as the sap is rising.

Saddle Grafting.—The top of the stock is cut like a wedge, and the graft is cut up the middle and the wedge-shaped stock is fitted into it, care being taken to have at least one side of the scion fitting bark to bark. The tying and claying process is the same as in the other modes.

Side Grafting is generally performed where it is not intended to remove the top of the stock. It is useful for filling up gaps in trees or for the insertion of several kinds of fruit, which we do not recommend on large trees. A piece is cut out of the branch, and the scion, cut wedge-shape, is inserted and bound up in the usual way.

Peg Grafting.—The scion must be the same size as the stock; a hole is bored in the latter two inches deep, the bottom of the scion being cut exactly to fit, and the barks to come in contact. Very seldom adopted and perhaps unnecessary to be described.

Having thus very briefly, but we trust explicitly enough to be understood, explained some of the principal modes of Grafting, we close these remarks by two or three hints.

1st. In almost all cases of fruit trees it is well to remove the scions a week or two before the Grafting season, and place them in some shady place with their ends in the soil; and as the proper time for Grafting is just when the sap begins to ascend the stock, will be a little in advance of the Graft, as to the rising of the sap.

2nd. Have a very sharp knife, and make all cuts with one cut, if possible.

3rd. Always select wood with a bud near the thick end of the scion, and have a piece of old wood attached to the scion, which should be of the growth of the year before. This is not generally thought necessary, but our experience is in favour of it. B. B.

HOLLOWAY'S PILLS AND OINTMENT.—Lowness of Spirits, Hypochondriacism, Insanity.—These formidable diseases are usually caused by a disordered condition of one or more of the digestive organs, and most deplorably commence at the meridian of life. The distressing symptoms need no enumeration: they are known in some degree to the wisest and best of mankind, as well as the weakest. Whenever the liver, stomach, and kidneys are roused, the morbid feelings and ideas vanish; to effect this happy result nothing more is needed than friction over those organs with Holloway's Ointment, whilst his Pills are likewise taken. The change of thought is immediate, happy, and lasting. Those, whom these medicines have cured, confess that their influence over the mind is magical.

The Cactus.

PLANTS belonging to the group "Cacti," so remarkable on account of their peculiar forms, their succulent leafless stems, and their (often) very handsome flowers, have become so generally introduced into our gardens, that we cannot but think a few words respecting them and their habits may not be unwelcome to our readers. We are indebted for much of our information to Schleiden's excellent and masterly work "The Plant," to which we beg to refer those interested in the subject of this paper.

All the *Cacti* known at present (more than 600 species) are natives of that part of America, which lies between the 40th degrees north and south of the Equator, the dreamy Pampas or Llanos, treeless immense plains in South America, the rugged Cordilleras, and Mexico, are the chief sources from which our gardens have drawn their supplies. In these localities *Cacti* are found on land which is nearly on a level with the neighbouring sea, and on mountains from 12,000 to 14,000 feet in height. The curiously shaped *Cereus* rises up, a single straight column, or branched Candelabrum shape, to 20 and 30 feet high, intermixed with the equally strange looking *Opuntia* or Indian fig, whilst an almost endless variety of more or less globular *Mamillarie* and *Echinocacti* luxuriate on the otherwise barren plains, or creep from the crevices in the rocks; Snake-like *Cerei* and *Pereskia*, often epiphytal, swing from some of the few trees to be found in these localities, or trail on the ground.

But although the greatest variety in shape is found amongst the *Cacti*, they have but a dreary dead-looking appearance, as none, (*Pereskia* excepted), possess any leaves; their grotesque fleshy stems, expanded into forms the most various, are armed with innumerable sharp thorns, which almost hide from sight the brownish-green color of their surface, but very few show the refreshing green so pleasing in other plants.

How strange must be the character of a landscape where *Cacti* are the prevailing features in its vegetation, and yet how much reason is there to admire the wise hand which so well adapted these plants to the places they inhabit. Months, and even years, not unfrequently pass away before rains refresh these localities, so that almost all other vegetation disappears, yet the succulent *Cacti* do not suffer from want of moisture; indeed their stems offer a never ceasing supply of juicy pulp to the thirsty wanderer, and to some of the beasts of the forest. Wild horses and asses eagerly seek this pulp, after having knocked away with their hoofs the fearful thorns we have mentioned. But not the stems alone are refreshing and useful, for the fruits of *Cacti* (berries of various sizes and mostly brilliantly colored) are also eatable and very pleasing to the taste; even the small fruit of *Mamillaria* is praised by travellers, for its excellent flavor, which is said to resemble the better kinds of our gooseberries. *Cerei* and *Opuntia* form, when old, very light and durable wood, which is used by the inhabitants as fuel, and also in the construction of houses and other buildings, which are often surrounded by impenetrable hedges, formed of some other member of this highly interesting group of plants.

Cacti are also of some importance in a mercantile view, some (*Opuntia Tuna*, and *O. cochimilifera*) nourishing the small insect which furnishes us with a very valuable dye. This insect, resembling that troublesome guest of our hothouse plants, (the Mealy Bug), lives exclusively on some of the *Opuntias*, which are specially cultivated on farms called *Nepaleros*; when sufficiently large, the insects are brushed from the plants with the tail of a Squirrel, common in those regions, to prevent their being damaged; they are then dried and sent to market. 70,000 insects are required to make one pound of color. Oaxaca in Mexico, alone exports annually 450,000 lbs., which would give the enormous quantity of 31,500,000,000 insects: their value in the European market amounts to £675,000.

The curious forms alone of the various kinds of *Cacti* would make them desirable objects for cultivation in our gardens, but how much greater will be their value to the Horticulturist when he knows that their flowers are often brilliant in the highest degree. What can surpass the beautiful scarlet or pink of some of the *Cereus* or *Epiphyllum*, and who would not admire the magnificent Queen of the Night (*Cereus nyctigalus* and *C. grandiflorus*), which opens after sundown, its tender white flowers measuring more than six inches in length, and spreading a delicious perfume. And moreover the *Culture* of *Cacti* is so remarkably easy, that almost any one may rear them. A porous sandy soil, plenty of sunlight, and shelter against heavy rains or severe frost, is all that they require.

Cacti are chiefly propagated by cuttings; these should, if possible, be taken off at a joint, and laid in some dry locality before they are planted, so as to dry up the wounded place. If this latter precaution is neglected, they are apt to rot. The cuttings should be planted in soil composed of a mixture of leaf mould, sand and charcoal, or lime and brick-bats from some old wall, broken up in small pieces, may be taken in place of the latter; give plenty of drainage to the pots, and *water the cuttings as well as the old plants very sparingly* (except perhaps during the flowering season), and avoid syringing the plants over head. Most of the *Cacti* will stand out of doors with us during the greater part of the year, and a frame or dry room will protect the more tender during the rainy season. *Cacti* may also be propagated by seeds, which keep their vitality for a long time, and germinate freely. For sowing, fill a seed pan with finely sieved soil of the above description, and level the surface well; sow the seed and cover them but very slightly, and plunge the pot into a bed where a gentle heat can be kept up. A pane of glass laid over the pot will assist and quicken the germination of the seed, which seldom take more than two or three weeks. When the young plants make their appearance, the pane should be raised a little and removed altogether after a few days; they may then either remain in the seed pan until they are sufficiently large for being potted off into very small thumb pots, or they may be pricked out in fresh soil, when they are almost the size of a pin's head; but little difficulty will be found in treating and rearing the seedlings, if the rules given for the cultivation of *Cacti* in general are observed.

Several of the *Cacti*, with low spreading branches, for instance *Epiphyllum truncatum*, *E. Russellianum*, &c., may be grafted on others, having an erect stem. If this be desired, make an incision in the stock to be grafted at the height desired, or remove a piece of bark and flesh from it, give the scion a similar shape to the wound on the stock and fasten them together by means of a Cactus thorn or loose ligature. The graft will quickly unite with its stock, provided the air is not too damp, and rain or other water is prevented from falling or lodging on the wounded places.

Cacti will live and even grow without being planted in soil, and this has doubtless caused the erroneous belief that they derive their nourishment from the atmosphere alone. The fallacy of this idea was proved by DeCandolle, who weighed a branch of a Cactus and hung it up for a considerable period in the air; during that time this branch had increased in size by having sent out several lateral branches, but nevertheless the weight of the whole was found to be much less than that of the original branch, thus proving that the substance of the laterals had been derived from the mother branch alone.

In the time of Linnæus only twelve or fourteen sorts of *Cacti* were known; now there are about six hundred, most of which are cultivated in European gardens. Comparatively few only of these have found their way to our shores, though their transmission would be effected with the greatest ease and security, few plants, if any, being better adapted for long voyages. Previous to packing them, the soil should be shaken from their roots, and the plants laid in the sun for a few days so as to dry up all moisture from the outside of the roots or plant. This done, a layer of fine charcoal should be placed on the bottom of the box in which the plants are to be packed, and on this lay them so that they cannot touch each other, then continue filling the box with alternate layers of charcoal and plants, taking care not to wound the fleshy stems with the knife or their thorns. A few small holes bored in the sides of the box will cause a circulation of air between the plants, and tend thereby to keep them in good health. Dryness will never affect them, whilst dampness is almost sure to destroy them. A box packed as above, and placed in a dry spot on board ship, would be almost sure to arrive here in good order from whatever part of the globe it may have been sent. H.

EXPORTS OF WOOL.

We now lay before our readers a return of the quantity of wool exported from Geelong, during the past thirteen years, with its estimated value; and the aggregate quantity and value shipped yearly during this period from the whole colony:—

Year.	Quantity and Value from Geelong.	Total quantity and Value from Geelong.
	lbs. £	lbs. £
1848—	2,542,916 ... 105,109.	9,930,235 ... 556,521
1849—	5,087,714 ... 231,298.	14,541,514 ... 674,504
1850—	7,143,319 ... 358,912.	18,548,236 ... 820,190
1851—	5,384,231 ... 275,621.	15,798,038 ... 734,618
1852—	6,730,020 ... 331,355.	19,745,541 ... 1,062,787
1853—	8,101,170 ... 529,855.	24,328,716 ... 1,651,671
1854—	5,942,910 ... 240,645.	22,998,400 ... 1,629,334
1855—	3,585,058 ... 397,427.	22,237,798 ... 1,390,621
1856—	4,280,152 ... 240,645.	19,970,174 ... 1,506,613
1857—	2,868,600 ... 212,257.	17,176,920 ... 1,335,642
1858—	4,234,913 ... 364,437.	21,615,958 ... 1,678,290
1859—	3,921,372 ... 348,815.	21,660,295 ... 1,756,950
1860—	5,476,354 ... 523,869.	24,278,910 ... 2,025,066

—Geelong Chronicle.

HORTICULTURAL CHEMISTRY.

ACCLIMATISATION.

I THINK I am but echoing the universal sentiments of our Victorian enthusiastic florists, in wishing we could grow and efficiently bloom the beautiful new Auricula described in an English extract in last *Gazette*. At the same time, I much fear that, even if it were imported, it might be difficult to accomplish this successfully without such artificial management as I am not aware has been yet brought to perfection in the colony. I allude to the winter's rest, which the Auricula indispensably requires for its healthy growth, assimilating in this respect with most of the plants in the cold as well as in the temperate regions of Europe and America, and altogether different from our colder and temperate districts in the Australian colonies.

Not having at hand the requisite botanical books, I cannot give the range of all the localities where the Auricula is found wild; but when I was in Switzerland, I gathered a number of specimens on the road from Geneva to Chamouni; and on ascending Mont Blanc to the Glacier de Boisson, not far below the perpetual snow, it was in full bloom. Now, the summer heat in these localities is greater (I do not speak from the thermometer, but from feeling) than in England, and quite equal, if not greater, than in Melbourne. The winter's cold, again, must be very much greater, as the snow lies there from six to eight months annually,—the deep covering of unmelted snow protecting, of course, the herbage thus covered, from changes of temperature, and keeping the ground at about the freezing point equably all the winter.

So long as there is life, even the dormant life of a hibernating serpent, snail, or dormouse, there exists a powerful resistance to freezing, such as would be fatal; and the same is true of plants as it is of animals. An uncovered potatoe or turnip, however, though endowed with this power of resistance to freezing, will yield to lower degrees of temperature, and be frozen and killed, while a suitable covering to render the temperature moderate and equable, will preserve life and capability of growth. The thick, fleshy roots of the genius *Primula*, in which the Auricula botanically ranks, is analogous in condition, to what has just been said of the potatoe and turnip. In Alpine glens and gullies, therefore, where I have seen the Auricula growing wild, the winter snow-covering keeps the roots from being killed by frost; while the low temperature completely checks all growth, and affords the plant a thorough rest of several months.

In order, therefore, to grow and bloom the Auricula successfully, it may be fairly inferred from the above, that in Victoria, we must imitate, as far as possible, the winter condition of the native Auricula on the Swiss Alps. In England, where the winters are frosty, though changeable, this is not very difficult, the changeableness of the winter temperature being the chief obstacle to overcome; and accordingly, Hogg, who has written a sensible little book on "The Auricula," recommends the pots, during winter, to be kept in a shady place, where no sunshine can reach them; and the same is a useful direction for the *Polyanthus*, another species of the genus *Primula*; though this being a native of Britain and Ireland, (I have found it wild in Blarney woods), it is not so indispensable as in the case of the Auricula. I must leave it to our practical Florists here to devise the best means of keeping their Auriculas in a low and equable temperature during the winter months; for if during mild and moist weather, the roots are stimulated into feeble growth, it will greatly weaken and injure them in the spring and summer. I believe there are very few Auriculas in any of the Colonies, at least I have never seen any collection of them, and only a chance one now and then in a border in the open ground, which on the principles above stated could not possibly thrive. The same is partially the case with the *Polyanthus* and *Oxlip*, which would succeed with difficulty in Melbourne, though in Tasmania they do tolerably well.

No botanist nor phytologist can tell nor guess why this genus *Primula* blooms in spring and early in summer, no more than he can tell why the oak and the hawthorn cast their leaves while the American maple and the Australian gum-trees cast their bark. But finding that Providence has so ordered it, the cultivator, in growing those several plants in various climates, ought to assimilate as nearly as he can the normal condition of each species.

J. R.

RATTANS—PALMS.—Familiar to everyone—from the schoolboy, over whom it hangs in *terrorem*, upward—as is the common cane, with its slenderness, its flexibility, and its flinty, polished surface—how few are aware that it is only a small part of the stem of a palm tree, which, in its native forest reached a length of 500 feet! These rattans form a tribe of plants growing in the dense jungles of continental and insular India, which, though they resemble grasses or reeds in their appearance, are true trees of the palm kind. They are exceedingly slender, never increasing in thickness, though immensely in length; in the forest they trail along the ground, sending forth leaves at intervals, whose sheathing bases we may easily recognise, at what we call joints, climb to the summits of trees, descend to the earth, climb and descend again, till some species attain the astonishing length of 1200 feet.—*Gosse's Romance of Natural History*.

Notices of Books.

HEALTH, HUSBANDRY, AND HANDICRAFT.

Seldom has a book given us more pleasure in its perusal than has this, the results of a long experience and observation by our old friend Harriet Martineau, tersely yet vigorously written, and each page abounding in truisms, from which reflecting readers must profit largely. There is a kind-heartedness pervading the book, which is its greatest charm,—an earnest desire to benefit her fellow creatures in every rank of life,—denouncing the fearful neglect of infants, whereby so great a mortality occurs amongst them; the follies in dress and food—discussing the subject of building comfortable and cheap cottages for the labouring classes,—calling attention to the thousands of needless deaths which take place from bad or deficient nursing, and the urgent necessity which exists for a great body of trained nurses, whose vocation shall be recognised and respected by society, &c. The portion of this interesting book, which more immediately, perhaps, affects our readers, is that devoted to *Husbandry*. Our authoress had read Cobbett, and John Sillett's "Fork and Spade Husbandry," and that, as she calls it, "fresh and animated" but *too tempting* book (which has already been noticed in our columns,) the *Farm of Four Acres*. Sillett confined his experiments to "Fork and Spade Husbandry;" the ladies of the "Four Acres" to grazing almost exclusively, hers were of an intermediate order, and although she did not depend on her "Farm of Two Acres" for subsistence, yet she created comforts for the use of her household, which paid for themselves; here she gives some important hints on Cow Feeding:—

"Hay is an extravagant kind of food for Cows, and ours have it only for variety, and as a resource when other things fail, and when they calve, or happen to be ill. Our main dependence is on roots and vegetables, (turnips, carrots, mangold, &c.) straw and condiments. As this was nearly a new idea in the neighbourhood, we were prodigiously ridiculed, till our success induced first respect, and then imitation, and people came to see how we arranged our ground, and how we got such crops out of it. We constantly gave in explanation the current rule, "the more manure the more green crops, the more green crops the more stock, the more stock the more manure;" and by degrees, the true principle of Stall-feeding and Spade tillage became clear to all inquirers."

Miss Martineau strongly recommends, for small holdings, a good cross-pole fence of split larch, along which rose bushes are to be planted.

"When covered with roses, as mine is for the greater part, it is a luxury to look upon, reminding travellers of the rose covered trellises of hot countries, as in Louisiana, Damascus, and Egypt. I see strangers come in and examine it, and try to shake it, as if they thought it a flimsy affair for a farm, even on a miniature scale, but I believe it

will outlast the present generation of inhabitants, human and quadruped; it is the only kind which is found effectual here against the incursions of Sheep."

From "Terrain and Tillage," we are led to "Dairy and Bacon," and we learn that stall-fed cows, properly managed, live longer, give more milk in the long run, are more healthy, and better tempered than if treated in any other way. Enough advantages surely,—and we have some capital suggestions for a "Cow Life Insurance," which would be invaluable to parties with small farms and limited means. In the absence of a qualified veterinary surgeon, the simple rules and facts of homœopathic practice are strongly recommended, their operation in the case of Cattle and Horses being too remarkable to leave room for doubt, even amongst those most opposed to it in the human case.

It is a commonly received idea that Pigs delight in wallowing in mud and dirt, and so those who keep them allow filth of all kinds, with decomposed food, to accumulate in their styes until many inches deep; but Pigs love cleanliness and thrive on it, and only resort to muddy places to relieve the irritation caused by a dirty skin. Let some of our Pig-keepers take this to heart.

"Our Pig's house is a substantial stone edifice, cool in summer and warm in winter, with a paved yard for eating, exercise, and basking in the sun. The pavement should come up every few years, and the soil below should be removed for manure, and new laid. A liberal use of disinfectants will be repaid by the health of the Pig and the content of the neighbours; and there is no more valuable manure than the disinfectants which have done their work of purification. The house and yard must be kept swept and clean, and the straw frequently renewed, and then the animal itself will have good habits. Pigs are not dirty, when they have any encouragement to be clean."

A few words only on the "Poultry Yard."—Most sincerely do we echo the remark that "As for any farmer who grows grain, and has a homefield and barn, he must be badly off for wife or daughter if he cannot depend on his Poultry for a respectable amount of annual profit." Farming now can only be profitable where these minor matters are cared for. It is a disgrace to the wives of our agriculturists, that the Poultry Yard and the Dairy receive no more attention at their hands, for even should not the mere gain be a consideration, surely as Miss Martineau suggests, "the amount of knowledge gained by actual handling of the earth and its productions, and by personal interest in the Economy of Agriculture, even on the smallest scale, is greater than any inconsiderate person would suppose; and the exercise of a whole range of faculties on practical objects, which have no sordidness in them, is a valuable and most agreeable method of adult education."

We close the book with regret; our space has forbidden our entering more fully into the various matters it embraces,—we may perhaps again return to it, but in the meantime have much gratification in earnestly recommending a perusal of it.

Notes on Ornamental Planting,

More especially as to the Trees best suited to the climate of Victoria, and best adapted for shade in the Streets of large Towns, and also for ornament in the Public Reserves: Read before the Horticultural Improvement Association of the Western District.

Appreciating the honor conferred on me by the "Geelong Horticultural Improvement Association," in electing me a corresponding member, I beg leave to offer a few practical remarks on the above subject, and I trust the intelligent members of this Association will pardon me for bringing forward a subject that has already been so ably discussed by Dr. Mueller and Mr. Bunce.

Many of the Trees recommended by the former gentlemen no doubt are very ornamental, and some of them well suited to this climate, so far as regards quickness of growth, but at the same time what we want for Street Planting in a climate like Victoria, is a tree that will afford shade sufficient to counteract the fierce rays of a burning sun, so trying to the European constitution, more especially in such towns as Melbourne and Geelong.

To obtain this great desideratum we must select a tree that will flourish in densely populated thoroughfares, and at the same time it must be of rapid growth, as well as ornamental.

The above gentlemen seem to have overlooked a most important point, and one which you will admit is of the utmost importance, namely:—of all the trees recommended by them which is best suited to the smoky atmosphere of large towns? Now I think before planting trees for shade in towns, we ought to select only those that are known to resist the impure atmosphere in which they are placed. No doubt the greater number of those trees recommended by Dr. Mueller will grow in towns, but the majority of them will never become the lofty umbrageous trees that we want in a dry and parching climate such as this is for some six months of the year.

Now I think that if instead of recommending twenty or thirty species, some one or two had been selected which had been fully tried and found suitable for the purpose required, it would have been more satisfactory than recommending a large number, which is only liable to lead people astray, for it is a well known fact, that many of our most ornamental trees will never flourish in densely crowded cities and towns, where dust and smoke deprive them of that pure atmosphere so essential to their natural development.

I feel confident that any person who has paid particular attention to this subject will admit that there are only a few species which ever come to maturity in such localities, and I feel certain it would only lead to disappointment to plant most of those trees which have hitherto been recommended.

It is many years since I first had my attention attracted to this important subject, and I find from practical experience in this Colony, as well as from careful observations made in various large towns in Europe, that no tree is more especially adapted for street planting than the Honey Locust Tree, Robinia Pseudo-acacia, or, as it is more commonly called in America, Cobbett's Locust Tree.

This noble deciduous Tree grows more rapidly than any I know, its dense foliage recommending it as a shade tree, and its elegance, and above all, the fragrance of its blossoms, making it every way desirable; and besides it has been proved in London, Edinburgh, Glasgow, and other large

towns, that it resists the impure atmosphere better than any other tree which has ever been planted in any of the squares or public promenades.

I consider a tree possessing such a combination of rare qualities deserving of especial attention; and I must say that I know of none which I would more confidently recommend for planting in streets and densely populated thoroughfares. Besides all those qualities so desirable in a tree for street planting, it has another which must not be overlooked, which is, that it will accommodate itself to soils where few trees would grow,—from the poorest sand to the stiffest clay it is equally at home.

I consider this a most important point in the choice of trees for street planting, more especially where towns are already built, and most of the streets are permanently made.

It has been proved in England that the Robinia Pseudo-Acacia resists the drought of a hot summer much better than any other ornamental tree, and within the last two years it has been very extensively planted about New York and several cities in America.

The only other tree that I would recommend for street planting, is the English Elm (*Huntingdon var.*), as being admirably adapted for this purpose, on account of its quick growth, dense foliage, and as is well known will thrive in the midst of densely populated towns in Britain. Its suitability to this climate cannot for a moment be questioned, as I have trees under my care that have made upwards of six feet of growth last season. It will also, like the Robinia, accommodate itself to any soil however unfavourable, and its capabilities of resisting drought have been satisfactorily proved. I might mention many other trees that will grow in towns, but in my opinion none are so suitable as the Robinia Pseudo-Acacia, and the Huntingdon Elm.

Next in importance to street planting in this climate, and particularly in Victoria, is the planting of the public Reserves, a want that is much felt about Melbourne and Geelong. Certainly some Blue Gums and Wattles have been planted in some of the Squares and Parks, but it is well known that these trees furnish an imperfect shade, and in a few years become very unsightly. In a country like this, where so much shade is required, I would say plant only those trees which cast a strong shade, and at the same time are ornamental.

I think most of you will agree with me, that there is a great want of ornamental trees in our public Parks and Reserves, and that it is most desirable such a public want should be supplied as speedily as possible, for it is well known that no part of the globe furnishes a climate so suitable to the various forms of vegetation that ought to adorn and beautify our landscape.

If ornamental plantations are to be made in our public reserves, let only those trees be planted that will be a credit to the present and a blessing to the next generation. It has already been proved that nearly all the Coniferous family flourish admirably in this climate, and it must be admitted that they furnish the noblest forms of vegetation on the globe, and as such fitted for the grandest places where trees will grow. Yet how few of them do we see planted in the public reserves.

Yet I trust the time is not far distant when the Blue Gum and Wattle will give way to the noble Pine; when our worthy citizens in summer will find shade under the spreading branches of Abies grandis and Nordmanniana, viewing with delight the graceful outlines of Douglass and Sabine's Pines, and reflecting with awe on the stupendous Wellingtonia and Cedrus Deodora.

These are the kind of trees that ought to adorn our public reserves. It must be from a want of taste, not from a want of means or opportunities of procuring any quantity of these noble trees. They are as common in England at the present

day as the true Highland Pine was fifteen years ago, and as cheaply procurable.

Private enterprise has done much more to introduce rare and ornamental trees than ever Government has done; but I hope yet to see the Gums and Wattles supplanted by the noble Araucarias, of Moreton Bay, Norfolk Island, and New Caledonia, trees that for ornament are second to none on the face of the globe, and which ought to be extensively employed for planting and adorning the extensive reserves lying waste around Geelong and Melbourne.

I could name many of the Coniferous family that are admirably adapted for ornamental planting, and would form great acquisitions if judiciously planted in the public Parks; but as I may again refer to this subject, I shall close this paper by giving a list of new Pinus, that I have now under my care, many of which are only recently known in England, and all admirably adapted for ornamental planting in this country. They are chiefly from the Botanical researches of the celebrated collectors, Roese, Lobb, Hartweg, Jeffrey, Fortune, and the noble and lamented Douglass, and comprise species from almost every part of the globe.

PINES, at the Hon. J. H. Brooke's, Mount Eagle, Heidelberg:—

Abies, Grandis.	Pinus, Benthiana.
Douglasii.	Jeffreyi.
Nobilis.	Russelliana.
Amabilis.	Grandis.
Nordmanniana.	Magnifica.
Menziesii.	Macrophylla.
Smithii, or Morinda.	Sabiniana.
Pinsapo.	Canariensis.
excelsa.	insignis.
Araucaria imbricata.	Longifolia.
excelsa.	Laricio Calabrica.
Bidwillii.	Laurica.
Cunninghamii.	palustris.
Cookii.	argentea.
Biota, Mordensis.	Lambertiana.
glauca.	Mont Allegrii.
Cedrus Africanus.	Van Geertii.
Libani.	Verrucosa.
Deodara.	Vershaefftii.
robusta glauca.	Patula.
Cephalotaxus Fortunei.	Ocampa.
Cryptomeria Lobbi.	excelsa.
Japonica.	Nitida.
Cupressus Lambertiana.	Ocotea.
Lawsonii.	Soulangiana.
Bedfordiana.	Rinzii.
Whitleyii.	Carrierii.
Udheana.	Kreelargii.
Lobbi.	Pseudo-strobus.
thujoides.	Tomaco-coensis.
torulosa.	Richardiana.
funbris.	Taxodium distichum.
Dammara, Brownii.	Semprevirens.
Bidwillii.	Thujopsis borealis.
Juniperus, Bermudiana.	Thuja craigiana.
excelsa.	aurea.
recurva.	gigantea.
oxycedrus.	Lobbi.
interrupta.	plicata.
Sabina.	Warreana.
Japonica.	Variegata.
Larix europæus.	Taxus Japonica.
Libocedrus chilensis.	baccata.
decurrens.	Widdingtonia cupressoides.
Octodinis Macleayana.	Wellingtonia gigantea.
Podocarpus asplenifolius.	
Andina.	

Those are all planted out, and I find them to be perfectly hardy and well suited to this climate, and I have no doubt but in a few years they will add a noble feature to the landscape scenery of this place.

WILLIAM FERGUSON,

Gardener to the Hon. J. H. Brooke, Mount Eagle, Heidelberg.

Vine Culture.

Read at the Monthly Meeting of the Horticultural Improvement Association, held on Wednesday, the 14th August, by Mr. WILLIAM BATSON, of Herne Hill, Geelong.

After the numerous Essays which have already appeared on this subject, it may appear unnecessary to occupy the time of this meeting with yet another paper on the same topic. The only reason that can be offered for thus trespassing, arises from the fact, that however excellent the directions given in those essays, a very casual glance at any Vineplot, or Vineyard, will at once convince an observer, that those directions have not been followed, and, thus, if the same, or other and more simple directions can be given, and urged on the attention of cultivators, we shall, as *The Improvement Association*, be within our province, by devoting a short time to the consideration of this interesting subject.

That the cultivation of the Vine is destined at no distant day, to become one of our most popular and (if rightly managed) profitable industrial pursuits is readily admitted by all who have turned their attention to the subject. We have not therefore to treat on a question that has the charm of novelty, and, but for the fact that this Association comprises most of the amateur cultivators within the district, I might be charged with presumption in attempting anything of this nature for our professional brethren, not so much perhaps that a few lessons would be entirely wasted even there, but from the hopelessness of removing any preconceived notions or opinions, for of all prejudices I have met with, none ever equalled those of the so-called professional gardener from the British Isles.

It is an axiom with cultivators, that "if a plant is to grow up strongly and freely, it must have, not only good and abundant food, but a suitable and healthy abode; it must be well fed and well bedded." It is therefore of the utmost importance that soil and site should be well considered, before any steps are taken towards the planting of any tree or plant, but more especially is this requisite when this noble plant, "The Vine," is to be cultivated. It has been usual to advocate trenching, and more recently, subsoil ploughing, as the first, and certainly the most expensive preliminary towards the formation of a Vineyard.

Were I about to plant a Vineyard at this present time, however large, or however small, I would dispense with trenching altogether; and instead of this expensive process, I would apply a good dressing of manure, and then dig the surface one good spit or spade thrust, and follow the spade with a pick and break up the bottom of the spade-trench to a depth altogether of fifteen (15) inches, leaving the stratum so broken up, at the bottom; and repeat the operation every time after the spade. This would be amply sufficient depth for the roots of the Vines, and if ploughing is resorted to, it has been practised thus:—The ground is ploughed twice, the second plough following in the furrow formed by the first plough, and returning empty, or only ploughing one way; the second plough has the mould board removed.

On dry calcareous subsoils, and also on strong clay subsoils, the Vineyard thus prepared would be vastly improved or benefited by putting in rubble drains at distances of 24 feet, and at such depths as the lay or fall of the ground to be operated upon, and the supply of rubble would suggest. These drains would effectually carry off all superfluous moisture, in the wettest seasons, and also render the whole plot more retentive of moisture in the driest seasons of the year. This will apply equally to the small plot, and to the largest Vineyard ever planted. The subsoil ploughing has its advantages where labour is scarce; but the amount of hand-labour rendered necessary to properly prepare the ground for the reception of the plants or cut-

tings, makes it, I believe, nearly as expensive as that performed by hand-labour alone. By the hand-labour process, the expense, including draining, would not exceed twenty pounds per acre.

As to site, I would ask, what is required? Early crops or late crops. In this latitude the fruit will ripen in all aspects, but at different elevations, and at different exposures, there will be a difference in the time of ripening, of from four to six weeks. Where practicable, therefore, and to prolong the supply over the longest possible period, plant in different aspects; always bearing in mind that the earliest and best is a north-eastern aspect, and the latest would be a southern, or one where the plants would be least exposed to the influence of the sun's rays.

Having prepared the ground for the reception of the plants or cuttings, the question arises, which is best? I have a decided preference for the latter, inasmuch as there is no mutilation of roots, no check on the plant from its first taking root, and consequently a better established plant; and that plant is in a better position to produce vigorous wood first, and then fruit. One Essayist states that "the best cuttings are those of a medium thickness, and from two to three feet in length." I confess I cannot receive this, although it comes from an authority in these matters, M. Belperroud. I would greatly prefer that the cuttings should be fifteen, or at most sixteen inches in length, and planted so that but one or two eyes, or buds, are above the surface. From the best of these two shoots, I would select the future stem of the tree or plant, and head down the same to the required height at the first season's pruning. Having the cuttings prepared, I would proceed to plant whole lines or rows of one sort, and not mix all indiscriminately as is too often the practice. These lines or rows I would have eight feet apart, and plant the cuttings in the rows four feet apart. I would treat the growing plants, during the first and second seasons, with a view to carrying out the following system of pruning and training. You will have observed that I only plant one-half the usual number of lines in a given space or plot, and for the following reasons. My object is to obtain as large a crop as possible within a given time, say ten years, and on a given surface, say one acre. My object in planting eight feet apart, is that there may be a free circulation of air, and free access to the fruit by the sun's rays. There is also free access to the plants at all times, whether for the purposes of pruning, training, and tying, or gathering the fruit. The first of these operations, viz., pruning, although of the utmost importance to the well-being of the plant, and the future success of the enterprise, is of the simplest nature. It is one on which many have been anxious to appear very skilful and very learned, but there really is no necessity for mystification, and of all the trees to which a pruning-knife has ever been applied, the Vine is one that would of itself teach the veriest tyro, gifted with ordinary powers of observation, what pruning is really required.

As I said above, I would select the best of the two shoots produced from the cutting, and make it, by heading down to the height of from one foot to eighteen inches from the surface, the future stem of the vine. I would again leave two good eyes or buds as nearly opposite to each other as possible; and as they break into leaf the second season, I would train or lead them in such a position that at the second winter-pruning they might be brought to a nearly horizontal position. I should only apply this treatment to every alternate plant, leaving the remainder to be treated as follows. During the first two years I should support those needing it with sticks or small rods; at the second winter dressing put in the stakes, posts, wires, or trellis,

BOWMAN'S IMPROVED REAPING AND WINNOWER MACHINERY.—It is said that the labor of three men for every reaping-machine in use may be saved during the whole period of harvest operations by the employment of Mr. Bowman's improvements, to the practical value of which very competent authorities bear strong testimony. *Adelaide paper.*

as the case may be, on which I intend to train the vines. Having erected the trellis or stakes and wires to a height of five or six feet, I should encourage the plants occupying the whole spaces between those treated as before directed, to occupy the upper portion of the trellis or wires, and work these to the utmost with a view to the production of fruit, and also with a view to remove them altogether from the line when those plants treated on the horizontal system shall require the whole of the surface of the trellis, subsequent pruning and training being entirely at the will of the operator. The whole of the trellis or lines of stakes may be occupied so soon as the plants produce shoots six feet in length; but it is not desirable to attempt this too soon with those plants which are to remain as the permanent bearers, on this system of training. I would not top the leaders at all during the growing season, but tie them in to the top of the trellis, where they would form a sort of protection to the fruit-bearing portion of the plants.

It would be useless going further into the question of operations, as the system is so simple that it explains itself, only adding that the summer dressing which is performed at the season of tying, consists of disbudding all superfluous wood, and thus regulates the leaders and fruit-bearing portion of the plant.

A reference to a few of the advantages of such a simple system, over, or compared with that usually practised in the Western District, is all I need attempt in the present paper.

If the draining has been properly attended to, there will be three lines of plants between the drains. If the drains have not been made previous to planting, it should be done as soon as possible after, as it is essential to the success of the system. But it should be done during the first year.

The manuring necessary is a dressing of bone dust over the whole of the ground before the usual annual forking or prong-hoeing. If an abundance of stable manure is available, let it be well rotted before being applied. The quantity of bone dust necessary, may be regulated by the luxuriance or otherwise of the plants, and the pleasure of the cultivator. Another advantage gained by the adoption of this system is in the number of plants requiring nutriment. By the system now in use, 2,722 plants are placed upon one acre. By this system of planting the number is reduced ultimately to less than one-fourth of that number, or to 680. The yield of fruit might not be quite so great in the third and fourth years of the series, but every succeeding year the yield of fruit may be regulated at pleasure, and instead of three or four bunches to each plant four feet apart, there may be, if desired, thirty or forty bunches to each plant, at eight feet apart, and this is exclusive of those intermediate plants occupying the upper portion of the trellis; and which will produce for several years, on each plant, as much as can be expected on any two plants on the stump system. There being but one-fourth the number of plants requiring sustenance, they must of necessity be "better fed" and "better bedded" than the larger number.

Take also appearances into the account, you enter a vineyard, or a vine-plot, and if it is of considerable size, your ideas will associate it with a labyrinth, or a vine forest of stakes and plants. Let imagination lead you into a trellised vineyard and you have a lovely promenade throughout its whole extent, and the fruit easy of access, and by-and-bye, double and treble the quantity of fruit, which would, of course, lead to results in the quantity of Wine per acre proportionate to the increased yield of fruit, and which would give a much wider margin of profit than that furnished

by 155 gallons per acre, the quantity given as the yield of this district; and there is no cause which can be assigned, why that quantity should not be multiplied by ten, which would give us 1550 gallons per acre; as this has been greatly exceeded in the Albury district; from the Gouais grape, 1,728 gallons per acre is given as the yield, and although I cannot speak as to the quality of this extraordinary yield, of one thing I am certain, that it could not well be worse than what I tasted at a certain hostelry in this town, and advertised as *pure juice* from the Barrabools, but which I could compare to nothing but a compound of *filtered Barwon*, Tartaric acid, and cochineal. I cannot find the article out of the vineyards.

One word as to the most economical Trellis for Vines. Instead of stakes I would suggest that iron uprights should be leaded into stone blocks, and wires stretched along these, which may be placed at such distances apart as may appear desirable; they would be very durable, seldom require replacing, and thus eventually prove less expensive than wood stakes.

I know there are objections to the trellis system, but these arise in a great measure from the imported prejudices in favour of the stump system, which prejudices hail from the Wine districts of the Continent of Europe. But these, together with the deep trenching and the three feet cuttings, are already yielding to a more rational and a more economical system of cultivation.

Popular Garden Flowers.

No. IV.

DOUBLE-FLOWERED DISTICHOUS DAY LILY, *Hemerocallis disticha*, var. *flore-pleno*.

This is a handsome variety of the Day Lily, exhibited recently before the Floral Committee of the Horticultural Society of London, by Veitch and Sons, where it received a first-class certificate as a novelty of a highly meritorious character. Although, remarks Mr. Moore, it has in common with all the family, the defect of being individually of short duration, yet this to some extent is compensated for by the succession which is produced during the blooming period.

The habit and foliage is as in other species; the colour of the perianth is of a rich fulvous orange, the segments being marked near the centre with a deeper brownish crimson streak or blotch.

The parent form was a native of China; but Messrs. Veitch received their plant from the Mauritius.

President Azalea; var. *A.indica*.

The varieties of *A.indica*, are now so numerous and so much improved in quality that new forms must have considerable merit to recommend themselves to connoisseurs; this variety is acknowledged to have that merit, the Horticultural Society's Floral Committee, having awarded it a first-class certificate. Compared with the older kinds, it resembles *Duke of Devonshire*, but with superior colours. Its habit is all that can be desired,—the flowers too are large, good form, stout and firm, with a smooth surface, and very pleasing colour, viz., of a deep, salmon red, thickly and elegantly spotted with deeper red at the base of the upper segments.

This variety was raised by Mr. Kinghorn, of the Sheen Nursery, Richmond.

Oriental Hyacinth, varieties.

Two more lovely varieties of this plant it has seldom been our lot to behold, and from their inexpensiveness every way worthy of general cultivation. Of that called *Lina*, Mr. Moore tells us that it is the brightest colour yet produced, so brilliant indeed that at Messrs. Cutbush's exhibition in the Spring of 1860, it stood out as the most glowing of all, amongst 500 of the finest varieties known. The bells are medium-sized, but sufficiently numerous to form a bold compact spike of a bright griselle crimson.

Lovely as is the species just noticed, *Argus* far outshines it, with its fine spike of large bells, rendered especially charming by the varied tints,—the tube is externally of a bright glossy cobalt blue, the segments of the limb indigo-blue, and the eye clear white pencilled towards the outer edge.

Acineta densa. Close-flowered Acinete.

An interesting orchid figured from a fine specimen grown by Mr. Lawrence, gardener at Farnham Castle. In the pseudo-bulbs and foliage it resembles *A.Barkeri*. The flower scape is pendulous, about a foot long, and bearing about a dozen flowers, of which the terminal one opens first. Flowers fleshy, at first of a waxy or pale-greenish yellow, becoming of a clearer but pale and rather dull yellow as they become older; they are large, and have a strong aromatic fragrance. The sepals are concave, the dorsal one elliptic, the lateral ones obliquely ovate, saccate at the base in front, spotless. Petals of thinner texture, obovate acutish, thickly dotted over on the inside with red spots, having also a few dots on the outer surface. Lip fleshy, pouched at the base, where it is downy within, and of a yellow color dotted with red, above this is a thick quadrangular wart-like appendage, of a deep sanguineous red, hollow beneath in the front, and with two lateral lobes, which are erect and meet the column, these lobes being truncate-rounded, deep yellow, and marked with large red spots; the terminal portion or front lobe is oblong obovate, bluntish, narrowed and spotted with red toward the base.

A native of Costa Rica, imported in 1849, grows, according to Mr. Lawrence, remarkably well in a basket, with a mixture of Sphagnum and fibrous peat, and treated in every respect like the other species in cultivation.

Geelong and Western District Agricultural and Horticultural Society.

On the 6th instant, the Monthly Meeting of the Committee of this Society was held in the Secretary's rooms, when arrangements were made for the great Exhibition of Horses, Cattle, Sheep, Pigs, Poultry, Implements, &c., which is to take place on the 5th September. Committees were appointed for the various departments, and Judges named for each. The Committee expressed their desire to have Judges from some of the neighbouring Societies, and requested the Secretary to make application.

A variety of Agricultural Seeds from Dr. F. Mueller, and prize Wheat from Adelaide, were distributed among the members.

At a public meeting of the Members, the Hon. W. C. Haines, Alexander Mackenzie, Esq., and

James McAndrew, Esq., were appointed Representatives of the Society to the Board of Agriculture; and the thanks of the meeting were accorded to the Hon. R. C. Hope, Alexander Mackenzie, Esq., and James McAndrew, Esq., for the faithful discharge of their duty as Representatives for the past year.

We understand, that from the numerous enquiries that have already been made at the Secretary's, it is confidently anticipated that the coming Exhibition will be an extensive as well as an attractive one.

GOOD FARMING.

THE HELPS AND HINDRANCES.

The combination of circumstances, the efforts and enterprise which go to make up that complex thing called "good farming," are far greater than persons not practically acquainted with husbandry can believe. There must be a farm in such a condition, as regards drainage, buildings, fences, roads, and freedom from obstructions, as will render fertility possible. There must be a fair bargain between landlord and tenant as regards rent, duration of possession, freedom from vexatious or useless restrictions, and so forth. The tenant must have the command of a sufficient amount of capital to enable him to cultivate the farm to advantage, and he must have such an amount of skill and enterprise, energy and caution, as will enable him to direct the cultivation and to control and regulate the labour of his farm promptly and economically. It is not enough to grow good crops; they must be grown on such terms as to leave a reasonable margin of profit.

At the Hexham (Northumberland) Farmers' Club, Mr. William Trotter read a paper on "The Advantages of Good Farming," which we find reported in that useful periodical, the "Farmer's Magazine." He there states with some force many of the points to which we have referred as essential to good farming. He said it had been asserted that good farming consisted of the observance of two rules, *i.e.*, "to make the land rich and keep the weeds down." Now, though those are very good rules for practice when all preliminary conditions have been obtained; but, as regards the position of farms and farmers in this country, "farmers have much more to do in addition to making the land rich and clean, to enable them to farm advantageously."

Good farming must be beneficial to both landlord and tenant, and to that end "the productiveness of the soil must be kept up and partake of that continually progressive improvement of which the soil is capable." This, too, is the state of things most beneficial to the community, both as supplying food and furnishing employment at fair wages for the working class. But labour forms so serious an item in farming, that every invention calculated to save manual labour and facilitate cultivation is welcome to the farmer. Hence the present demand for agricultural machinery. Nor does the use of such machinery depress or injure the labourers in husbandry. On the contrary, it relieves them from much drudgery, and makes them "directors of the machine that does the work," and not themselves the mere machines. This elevates and expands their minds, for wherever machinery is much used on a farm the labourers are found to be more reflective and intelligent than where improved machines are not in use. "The benefit, then, which results from the introduction of machinery, so far as regards pounds, shillings, and pence, does not arise from a reduction of wages, but because machines enable us to get the work done better and cheaper than by hand." But the difficult part of

the subject is the question of profit. Good farming to be advantageous must be profitable. "But with increasing rents, increasing wages, increasing taxes, and other increasing demands, whilst the average prices of grain remain nearly stationary, how the tenant is to obtain this profit is easier asked than answered. However, it must be admitted that some few farmers do make money. That they do so in a much slower way, and not to that extent that men do who are engaged in manufacturing and commercial pursuits, or in the professions, is true. But there are as few wrecks amongst farmers as amongst any other class." Here we find inherent difficulties enough in the way of farming profitably. The causes which prevent or promote a farmer's success are said by the lecturer to be numerous. Taking some of his illustrations of the causes which prevent success, it is said, "A soil full to the surface with water cannot be farmed profitably, neither can land adjoining badly-managed woods or plantations. They are nurseries of everything that is obnoxious to good farming. I have seen young plantations in which the thistle reigned triumphant. I have seen its seed drifting over the adjacent fields. The result was seen in after crops. . . . Again, no farmer can farm profitably in the neighbourhood of game preserves. . . . A man farming under any of these disadvantages suffers more than mere loss in his crops. However well he may plough, however profusely he may manure, his crops will dwindle away before his eyes. This mortifies him to the very core. He hopes against hope, labours indefatigably, but cannot get ends to meet. Energy, so essential to success, gradually loses her sway, and there he stands in the world—not so much a free man as a serf." Climate, the geological structure of his land, and other natural circumstances of the farm, have commonly great influence on the farmer's prosperity or ill-success; but "the greatest cause is within himself. He must have his wits about him. He must calculate rightly, and avail himself of all the helps which present themselves. Thus certain expenses must be set down as a constant quantity against the farm. Rent and taxes are of this nature. Then the expenses of ploughing, of harrowing, and of sowing, are the same, whether we get good or bad crops, whether the farm is in good or bad condition." Indeed, this rather understates the case, for all the operations of culture are more expensive when the crops are bad than when they are good, because bad crops permit the growth of weeds to an extent vastly greater than can occur when the crops are good, and an abundance of weeds adds enormously to the cost of cultivation. The obvious conclusion is, that when the farmer has incurred the cost of rent, rates, taxes, and cultivation, he will be acting most unwisely if he neglects manuring. "It is," says Mr. Trotter, "self-evident that if we can, by a judicious application of purchased manures, augment our crops, that we shall be gainers in proportion as the value of the extra part of the crop exceeds the value of the manure." Nor is that all. Regard must be had to the character of the soil on which the farmer works. Thus, "to go upon a tenacious, retentive soil, when in a 'pasty' state, whether to cart off turnips, to plough or harrow, is under many circumstances tantamount to destroying the crops, however liberally the land may have been manured." So true is it that "farmers' incomes and outlays are so nicely balanced, that no waste can be admitted whether of produce or labour." We may add that no opportunity of increasing produce must be omitted. There are other topics well dealt with in this lecture. Thus it is said the use of improved machinery, such as reaping and mowing machines and the like, is retarded because many farmers imagine that more skill is required to manage them than is actually to be found on farms. But this is a mistake, for the best farm labourers soon understand and appreciate the use of machinery.

One point dwelt on is not creditable to the

management of the landowners. Farmers hesitate to make yearly what would be a profitable outlay in artificial manures, because "just in proportion as the farm has improved up will go the rent." And there is no doubt that such would be the case if the farmers were to be so rash as to make great improvements where unprotected by leases. To this Mr. Trotter says, "I grant this, but we must bear in mind that if we do not succeed with good and energetic management, we cannot hope to do so by an opposite course. We seem to have no control over rents, and to stand still because the landlords get the lion's share of our improvements is not good logic." This is not an answer to the objection, nor can there be any effective answer where the farmer holds his farm as a yearly tenant.

With respect to the size of farms, it is said, "I have not been able to discover that large farms have much advantage over small ones. I admit the tendency is to the increasing of size. I see some evil in this, but it partakes of the general tendency of the age, which is that of collecting wealth into heaps, and of population into dense masses." This is, no doubt, the natural tendency of increasing wealth and prosperity. Large farms are incidents to the general progress, and the advantages enjoyed by the occupier of a large farm—assuming him to have a competent capital for its management—over the occupier of a small one are numerous. He can use more and better machinery, he can combine a greater force of horse and manual labour upon any operation, or he can carry on different operations simultaneously, so as often to succeed in precarious seasons, where the small farmer will fail. Of course more skill is required and more hazard incurred on a large than on a small farm.

DOCILITY OF THE HORSE.

Next to the buffalo the horse is the mainstay of the prairie Indians. Good horses are not very common among the Crees; they are, however, very intelligent and well trained. A good buffalo runner is invaluable to them, for although it does not require a fast horse to catch a bull, the cows, possessing greater speed, often outstrip them. A good Indian horse possesses some excellent characteristics, the result of training, which it may be interesting to enumerate, for the purpose of exhibiting how admirably this animal serves his rude and savage masters. When galloping after a buffalo, an Indian horse watches the animal as intently as his rider, always swerving when he observes the buffalo's tail begin to vibrate, and breaking into a short gallop at his utmost speed when he sees the tail erect, a sure indication of an immediate charge. The rider may with safety entrust himself to his horse if mounted on a trained buffalo runner; he will be carried within three yards of the flanks of the animal, and safely withdrawn when danger is threatened. If the horse stumbles and throws his rider, the sagacious animal stops instantly and waits for him to mount again. A happy instance happened to myself when riding a fierce grey mare an Ojibway Indian lent me to gallop from his tent to Manitobah House, a distance of ten miles. "She is my favourite buffalo runner," said the Indian, "and will not need the thong." She ran away with me, however, as soon as we reached a Grassy opening about a mile across, and in the midst of her gallop the belly band broke, and the little Indian saddle slipping round, I was thrown at once on the soft turf. The mare stopped immediately, turned round and stood at my side, waiting until I had risen and adjusted the saddle. As soon as I mounted she started off again, as if my sudden and unexpected descent had been intentional. At another time, when driving a small cariole over the frozen waters of Red River, the horse, an Indian

one, not being roughshod, slipped and fell, but without an effort to rise remained perfectly quiet until I had loosened the harness, when he scrambled up, gained a rough portion of ice, and quietly waited to be harnessed afresh.

Indian horses are excellent watchers by night; our half breeds were accustomed to note with care the aspect of the horses before retiring to rest; if they showed the least signs of uneasiness, such as staring about them instead of feeding quietly, or, when feeding with the "bite" in their mouth, stopping to listen, or snuffing, or approaching the fires when the flies were not troublesome, they would look for the cause and sometimes set watchers. When during the night, however dark, the horses suddenly approached the carts, the half breeds would go to them, caress them, and watch the direction in which they fed or looked, knowing that their heads would be turned towards the danger, whether of Indians, or bears, or wolves. One more instance will suffice to show the docility and training of Indian horses. I was riding a small horse which we had procured from the Crees on the Qu'appelle, in company with a Blackfoot half-breed, some distance before the carts in the valley of Long Creek. As we ascended a low hill we saw a bear 250 yards before us. My companion could speak but few words of English, so with signs he motioned me to dismount, and, having satisfied himself that the horses saw the bear, he led them a few yards aside behind a clump of willows, and tying their bridles together, he patted them on the neck, and pointed to the bear, caressed them again, and afterwards motioned me to follow him. The horses, with pricked ears, followed with their eyes every movement of the bear now slowly moving from us, but occasionally stopping to crop the twigs of willow. We crawled to leeward, and got within 70 yards of the bear; he then perceived us, I fired and sent a ball through his lungs. We waited to see if he would again, but finding that he lay struggling on his back, we approached and despatched him. On looking round for the horses, they were seen standing in the same place, intently watching us. My companion called them, they came slowly up and stopped within 40 yards, eyeing the bear all the time. Finding that we approached it and handled it, they began to feed, evidently being satisfied that it was harmless.—*Hind's Narrative of the Canadian Red River Exploring Expedition.*

CHERRY WATER.—"A lady," descending on the cottages of the Alps, speaks of cherry water as one of the staple products of the neighbourhood. The cherries are pressed for their juice, as apples are for cider, and the product, though a liquor, certainly little known in England, appears very potential. She says, "We one day saw a decanter upon a table, filled with what we supposed to be water, as it was colourless, and we had never seen any stronger liquor without some slight tinge of yellow, red, or purple. Being thirsty, we thought to help ourselves, and took a generous draught, which, in an instant, had pervaded every drop of blood in our veins. It was cherry water; but it surely deserves a more significant appellation. It is made by crushing fresh cherries and pounding them, as the juice is expressed from grapes. They are then kept slightly warm till fermentation takes place, which sometimes happens the second, and often not till the fourth week. The tub remains covered, and the pulp is stirred every two days. It can then remain a long time without injury, or be immediately distilled like brandy. So long as it runs clear, it is of the right taste and consistency; but when the liquid is thick, it is put back with the pulp in the still. To prevent its taking fire before it begins to boil, it is stirred violently. Like good wine, it improves with age."

EARLY AND LATE SOWING.—Great difference of opinion exists among practical farmers as to the effects of early or late sowing. Results have been from time to time given, which, not being comparative, are really of no value—except, perhaps, in their own immediate district—as they do not admit of general application; and probably, in some cases, indeed, the results were attributed to other causes than the time of sowing. This is an object which might with advantage be taken up by our great agricultural societies. A series of comparable trials on our barley-growing soils in different parts of the country, would, no doubt, settle this disputed point. The only experiments recorded are those by Arthur Young, towards the close of the last century, and these are still quoted by several of the continental writers. These experiments had reference to the comparative yield of barley sown at different periods—in the same soil, and in the same proportions—which is given as follows:—

Sown in February, the yield was as 12.5

"	March,	"	"	11.5
"	April,	"	"	8.5
"	May,	"	"	6.5
"	June,	"	"	3.15

These figures, furnished to us by such an authority on all farming matters as Arthur Young, surely are worth something. The experiment, no doubt, was a solitary one; but then it was strict, consequently valuable; and, at all events, it is quite within our power to test their correctness in regard to the general conditions of barley growing, by a more extended series of trials, which would have the advantage of drawing public attention to the subject, and give us reliable data for our guidance in future operations.—*Our Farm Crops, by Professor Wilson.*

QUANTITY OF SEED TO THE ACRE.—The table will enable any farmer to judge for himself as to whether he is seeding thickly or thin.—Table showing the number of grains upon a square foot, yard, and acre, at certain quantities.

Grains per sq. foot.	Grains per sq. yard.	Grains per Acre.
4	36	174,240—1 peck.
8	72	818,480—2 "
12	108	522,720—3 "
16	144	696,960—1 bush.
32	288	1,393,920—2 "
48	432	2,090,880—3 "
64	576	2,787,840—4 "
80	720	3,428,800—5 "

If any person will mark upon a board or paper a square foot of space, and then divide it into four equal squares, and place a grain of wheat in the centre of each square, he will have not far from one peck of seed to the acre. If he can place two in each square, he will have half a bushel, which, if every seed should vegetate, would give as many plants as the land could well mature, unless very rich. But divide the foot into sixteen squares, and place a grain in the centre of each square, and it will give one bushel of wheat to the acre. If any person will examine his winter wheat this spring, he will find that, if the plant has a vigorous growth, it covers more space than would be allowed here. Put two grains of oats to each square, and it will give two bushels to the acre. Make three to each square, and there will be three bushels of seed to the acre. If one of the sixteen squares be divided into inch squares, it gives nine. Place three grains of clover-seed upon each square inch, and it gives less than a bushel of seed to the acre.—*New York Tribune.*

To Subscribers.

In order to meet the regulations of the Post Office, it will be necessary that this year (1861) we should issue fourteen numbers instead of twelve as heretofore; some slight increase in the subscription is therefore necessary to meet the additional expenses; and the terms will be—

Without postage ... 7s. per annum.

With postage ... 8s. "

At the same time no effort will be spared to make the "Gazette" a first-class paper on all Agricultural and Horticultural topics.

The next number of the "Gazette" will be published on the 9th of September.

SUBSCRIPTIONS received since our last issue:—

	£	s.	d.		£	s.	d.
Mr. J. Morris (R)	0	15	6	Mr. Duffus, per Ven.			
" H. S. Walsh (R)	0	10	10	Archdeacon Braim	0	8	6
" C. Read (R)	0	7	4	Mr. Synnott, ditto.	0	8	6
" Jas. Aran (R)	0	10	10	" G. Synnott	0	8	0
" W. Longmore (R)	0	10	10	Messrs. Thompson &			
" P. Robertson	0	8	4	Turnbull (R)	1	1	0
" M. Ashworth	0	8	0	Castlemaine District			
" Holman	0	15	0	Horticultural Society	0	6	0

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Six Lines or Less	s. d.
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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 10.

SEPTEMBER 9, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

TO OUR SUBSCRIBERS.

WE would remind many of our Subscribers to whom the "Gazette" has been regularly forwarded, in some instances for many years, without the subscriptions being paid, that the transmission of Newspapers through the post is equivalent to the delivery of Goods, and any person retaining such papers is not only responsible for the payment, but liable to legal process for the recovery of the amount due.

The "Gazette" having been started entirely to advocate the cause of the Agriculturists and Horticulturists throughout the colony, we trust this appeal will induce those whose Subscriptions are still in arrear to forward them forthwith—in stamps or otherwise, to this office.

DELINQUENT SUBSCRIBERS.

A poetical editor addresses his delinquent subscribers in the following musical and touching numbers:—

How happy are they
Who the editors pay
And have squared up for one year or more.
Tongue cannot express
The great joy of the press
When delinquents have paid the old score.

Printers all the day long
Labour hard for a song—
A fate that is hard, all agree—
They have worked night and day,
And of course want their pay,
To buy sugar, and coffee, and tea.

One would hardly believe
What small sums they receive
For the paper addressed to each name;
But the price is so small
That the good people all
Will pay up for the fear of the shame!

ADVERTISEMENTS AND SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Vine Culture!!

MR. BATSON'S Essay on "VINE CULTURE," in the August number of the "Gazette." Price, 6d.

Port Phillip Farmers' Society.

ANNUAL EXHIBITION

OF
HORSES, CATTLE, SHEEP, SWINE, POULTRY, DAIRY
PRODUCE, IMPLEMENTS, MACHINERY, &c., at
the Show Yards, Melbourne, on

TUESDAY, WEDNESDAY & THURSDAY,
The 8th, 9th and 10th October, 1861.

Open to the Public on Wednesday and Thursday, 9th and 10th October.

Intending exhibitors can procure Prize Lists, and all particulars, by application to the Secretary, at the Office of the Society, 48, Bourke-street west, Melbourne.

ARTHUR J. C. SKILLING,
Secretary.

Horticultural Improvement Association.

THE GRAND EXHIBITION

OF
PLANTS, FRUITS, AND VEGETABLES, has been
Postponed in consequence of the late season, to
THURSDAY, 10TH OCTOBER NEXT.

The Secretary will be in attendance at the Mechanics' Institute, between the hours of 10 and 6 o'clock, on the SATURDAY and MONDAY preceding the day of Exhibition, to receive Entries.

Prize schedules may be obtained of Mr. W. Clarkson, Ryrie-street, or any Member of Committee.

SAMUEL HANNAFORD,
Honorary Secretary.

Horticultural Improvement Association.

THE next Monthly Meeting will be held at the MECHANICS' INSTITUTE, on WEDNESDAY, the 18th inst., at 7 o'clock. The discussion on Mr. Batson's paper on "Vine Pruning," will be resumed.

Mr. Henry Adecock will read a paper on "Budding."

Members who have not yet paid their Subscriptions, are requested to do so forthwith, to any Member of Committee, or to the Honorary Treasurer, J. MIDDLEMISS, Esq., in order that the Association may be placed in funds for the forthcoming Show.

SAMUEL HANNAFORD,
Honorary Secretary.

Money to Lend.

GEORGE WRIGHT

HAS £4000 to Lend, in sums of £200, on approved securities.

GARDENERS' CALENDAR.

Sow Peas twice during the month for succession. Sow French Beans; the Dun Kidney, and early Bettie sown at the same time will come in rotation. They should be put in in rows eighteen inches apart, and may be sown as thickly as two inches apart in the rows, every other one to be drawn out by and by when they get too thick. The reason for sowing thick in rows is, that if much wet come, some of the seed might rot. Carrots, Parsnips and Beet may still be sown, but they should all have been in some time since. Carrots and Parsnips fairly up should be kept well thinned out; it is a bad plan to let them get drawn up for want of free circulation of air. Onions should also be weeded and thinned as they come on; keep the hoe going amongst these crops, to cause them to grow fast. At the end of the month, sow Cucumbers and Melons on ridges properly prepared with good stable manure. If a frame be handy, it is a good plan to raise plants of Melons, &c., in pots, and they can be turned out on to the ridge when danger from frost has passed; if pots be scarce, small pieces of turf answers the purpose. Sow also Pumpkins and Vegetable Marrow for a first crop, remembering that these are very fond of manure, and the ground around them should be scooped out or dishd to facilitate watering when the time comes. Give a little guano-water to Asparagus beds, or if the weather be moist, sprinkle the beds with guano. Plant Lettuce, and sow for late crops where they are to remain—the ground being rich. Plant Cabbage; earth up and hoe amongst these crops now growing. Plant Potatoes, and draw earth to the crops already up.

In the Flower Garden, sow all kinds of Annuals, and put out bedding plants raised in pots. Mark all bulbs as they come into flower with a good strong label; many of the bulbs get destroyed when digging goes on if this be not attended to. Give Ranunculus and other bulbs a little manure-water now and then. Weed and keep clean.

To Correspondents.

All communications for the "Gazette" to be addressed to HEATH & CORDELL, Malop-street, Geelong.

It is not necessary that an identity of opinion should exist between Correspondents and this Paper.

THE views of any Contributor of known integrity and intelligence, upon subjects of public importance, will always find a place in the "Gazette," if space permit, and they are free from intemperate language and personalities.

WAGES. (Farmer, Ballarat.)—Farming men's wages vary very much in England and Scotland. In Argyleshire, the average is men, 12s.; women, 6s. 6d.; boys, 4s. 6d. Berwickshire, men, 15s.; women, 9s.; boys, 5s. Edinburgh, men, 14s.; women 6s.; boys under 16, 4s. Kent, men, 12s.; boys, 6s. Essex, men, 11s.; boys, 5s. to 6s. Dorsetshire, men, 9s.; boys and women, 4s. to 4s. 6d. Northumberland, men, 13s.; women, 7s.; boys, 5s. to 6s. These averages are without anything besides. In some places men are allowed to live rent free, and have free grass for one cow, but wages are lower. We have taken these averages from very recent returns.

SHORT HORNS. (Breeder, W. W.)—We confess to having a liking for this breed, and it is the common opinion in England that the Short-horn is the best breed for the farmer. But there are questions which require to be more fully considered than they have yet been, before it can safely be assumed that the Short-horn is the best breed for the general purposes of this country. They possess the excellent quality of arriving at early maturity, if the soil, food, and other circumstances be suitable. On the other hand, they will not put up with the hardships which a Hereford would, and thrive on. For rich, well grassed, well watered lands, we would have no hesitation in preferring the Short-horn, but for poor soil, where the cattle have to travel far for their food, we think the Herefords will suit best. As to Sheep, we prefer the pure Merino for this country, and shall do so until we see just cause to alter our opinion.

BUDDING ROSES. (Amateur, Geelong.)—You cannot bud Roses just now. The proper time is when the young wood has made some progress towards maturity, and buds are formed on it at the junction of the leaf stem. We shall probably publish something about it ere long.

EGGS OF SILK WORMS. (B. B.)—You can get some Eggs by applying at the office of the "Gazette." If by post, enclose a stamp. You can also there procure a few seeds of the Cotton plant. The White Mulberry is the proper tree to plant for the Silkworm, and you can get them of the nurserymen. Plant at once.

FARMING LEASES. (W., Ballan.)—The subject of your communication is one involving important considerations, and we will in another number endeavour to oblige you, by entering more fully into it than we can in our present Correspondent's column.

APPLICATION OF MANURES.

If the preparation of manures requires the farmer's best attention, the application of the mass after it has been prepared equally demands his supervision; whether applied as dust by means of the drill, placed in the furrows as is the custom for roots, or generally incorporated with the soil, as is the more common method of application; the great aim of the Agriculturist should be to see that it is applied in its full strength and freshness. A farmer might as well try to set fire to a heap of dry straw by casting a black cinder into it, as to benefit his land or his Crops by applying bleached Manure to the soil. We speak of prepared farmyard, or stable Manure. With bones, lime, and composts, the case is different; they do not lose so much, if any, of their virtues by exposure to the action of the sun, rain, and wind; although some of the latter are occasionally

Horticultural Improvement Association OF THE WESTERN DISTRICT.

GRAND EXHIBITION

PLANTS, FRUITS, AND VEGETABLES, to be held at the MECHANICS' INSTITUTE, Geelong, on THURSDAY, 10th OCTOBER, 1861.

SCHEDULE OF PRIZES.

Open to all Exhibitors.

Class A.—POT GROWN PLANTS, IN FLOWER.

1. Collection of six stove or green-house Plants, excluding Fuschias, Geraniums, or Annuals.
2. Collection of three ditto, ditto.
3. Single specimen, ditto, ditto.
4. Best collection of Plants.
[Exhibitors under this section to intimate the space required.]
5. Best six Camellias, varieties.
6. Best three ditto, ditto.
7. Best six Azaleas, varieties.
8. Best three ditto, ditto.
9. Best specimen Azalea.
10. Six Gloxinias, varieties.
11. Three ditto, ditto.
12. Three Achimenes, ditto.
13. Six Calceolarias ditto, herbaceous.
14. Three ditto, ditto, ditto.
15. Best ditto, shrubby.
16. Six Cinerarias, varieties.
17. Three ditto, ditto.
18. Six Mimulus, ditto.
19. Three ditto, ditto.
20. Best specimen Mimulus.
21. Six Auriculas, varieties.
22. Three ditto, ditto.
23. Best specimen Auricula.
24. Three Polyanthus, varieties.
25. Three Primulas, ditto.
26. Six Petunias, ditto.
27. Three ditto, ditto.
28. Three Cacti, ditto.
29. Best specimen Cactus.
30. Three Ericas, varieties.
31. Best specimen Erica.
32. Nine Pansies, varieties.
33. Six ditto, ditto.
34. Six Geraniums, scarlet, varieties.
35. Six Geraniums, varieties, florist's flowers.
36. Three ditto, ditto, ditto.
37. Twelve Pelargoniums, ditto, ditto.
38. Six ditto, ditto, ditto.
39. Three ditto, ditto, ditto.
40. Six Fuschias, ditto.
41. Three ditto, ditto.
42. Best specimen Fuschia, dark.
43. Ditto, ditto, light.
44. Twelve Roses, varieties.
45. Six ditto, ditto.
46. Best specimen Rose.
47. Three Begonias, varieties.

Class B.—POT GROWN PLANTS, IN OR OUT OF FLOWER.

48. Collection of Conifers and Taxads.
49. Ditto, Native Plants.
50. Ditto, Ferns.
51. Three Ferns, varieties.
52. Specimen Fern.
53. Three Lycopods.
54. Specimen Lycopod.
55. Best six Plants for beauty of Foliage, distinct species.
56. Best three ditto, ditto, ditto.
57. Best New or Rare plant.

Class C.—CUT FLOWERS.

58. Twelve Anemones, varieties.
59. Six ditto, ditto.
60. Twelve Ranunculus, ditto.
61. Six ditto, ditto.
62. Twelve Tulips, ditto.
63. Six ditto, ditto.
64. Six Hyacinths, ditto.
65. Three ditto, ditto.
66. Six Gladiolus, ditto.
67. Three ditto, ditto.
68. Collection of Bulbs and Tubers.
69. Twelve Pansies, varieties.
70. Six ditto, ditto.
71. Twelve Roses, ditto.
72. Six Roses, varieties.
73. Collection of Roses.
74. Twelve Verbenas, single trusses.
75. Six ditto, ditto.
76. Twelve Stocks, varieties.
77. Collection of Stocks.
78. Collection of Cut Flowers, excluding Bulbs, Tubers, and Annuals.
79. Collection of Annuals.
80. Collection of Delphiniums, (Larkspurs).

composed of substances that would be better buried in the soil shortly after being spread, than allowed to lie too long exposed. All soils are porous more or less, and it matters but little to such manures as bones—in any state—or lime, whether they lie buried at a certain depth, or are allowed to give off what little gases exhale from them on the surface. The plants will derive equal benefit either way, but with prepared Manure it is different; if it be not buried at once it very soon loses all its virtue, and neither the roots nor the leaves of the plants derive any benefit from it.

What must frequently have attracted the observation of many persons here, is the manner in which manure heaps are laid out and spread. It is not by any means uncommon to see these heaps, varying in size from one to one-fourth of a cart-load, laid upon the land intended to be manured, some MONTHS before the material is spread; and it is no less uncommon to observe that they are sometimes spread out for WEEKS before being ploughed in, by which abominable mismanagement, they become bleached and all but useless. To obtain the full benefit of any of this prepared Manure, it should be covered up almost as soon as spread; no more should be laid down for the day than the plough can cover before night, and to ensure it being well laid, boys might follow each plough and rake into the furrow just cut, the manure on the next sod to be turned. This will ensure its being covered throughout to one uniform depth, and we think such a plan much preferable to that of placing manure in drills only for certain crops. This latter method is attended with the double disadvantage that the gases do not so freely escape to nourish the leaves of the plants, and that the manure acts as a drain to relieve the upper earth of that moisture so necessary in our warm climate to be retained round the roots.

If land that it is intended to fallow, be of a strong nature and clean, we would recommend a coating of manure to be ploughed in before fallowing; if the land be foul or light, we should not apply the manure until the fallow was broken up. Fallowing is of itself, and independent of manure, a system of adding vigour to the soil; and in these days of agricultural improvement, with superior sub-

soil ploughs, it is almost impossible to say what might be done on some of our colonial farms without the aid of manure at all; for by regular fallows, and by adding at each breaking up of these, an inch or an inch and a half of maiden soil from below, and turning it over with the fallowed soil above, there is no telling how long land might be profitably and advantageously cultivated. We do not approve of this plan, because we always shall contend that the farmer who neglects to provide manure for his land, does not deserve to be reckoned among our agriculturists at all, but it is not improbable that the system suggested might be advantageously adopted, on light and indifferent soils especially, until the farmer had accumulated a sufficient supply of manure to enrich the land by that more legitimate method.

As to the quantities of Manure to be applied per acre, much must depend upon the nature of the soil. It is possible to overdose land with manure, and to produce a reverse effect to that intended; so that care and discrimination should be used, in order that waste may not be the result. Among all known Manures, crushed bones hold the first place as fertilisers; next to bones stands properly prepared farm-yard or stable manure; next in importance comes lime, in its various stages—natural, quick, and slaked; and last come composts of earthy matter. Bones may be applied in a variety of ways, as dust, pieces, or as a super-phosphate. When used as dust, they are generally sown with the seed, or applied as a top-dressing to grass lands, at the rate of from 20 to 25 bushels per acre; when applied in half-inch or inch pieces, at the rate of 30 to 40 bushels per acre, and when applied as the phosphate, at the rate of about 40 bushels per acre. The wonderful effects of bone dust, when it was first introduced among the Scottish farmers, gave rise to the proverb, "the importation of one ton of German bone-dust, saves the importation of ten tons of German corn," and led to the temporary belief that agriculture was practicable without the assistance of cattle-breeding and grazing. They possess this rare advantage that, if applied in tolerably sized pieces, say inch size, they not only stimulate the plants for the time, but keep the land in good heart for several years.

79. Bouquet for Hand.
80. Ditto Table.
81. Design in Cut Flowers.
82. Bouquet of Wild Flowers.

[Honorary Certificates will be awarded to approved Seedlings or Hybrids in any of the foregoing Classes.]

Class D.—FRUIT.

83. Best collection of Fruit.

Class E.—VEGETABLES.

84. Best brace Cucumbers.
85. Best dish Seakale.
86. Six Cauliflowers.
87. Six Broccoli.
88. Six Cabbages.
89. Asparagus, 50 heads.
90. Dish of Peas, 2 quarts.
91. Broad Beans, 2 quarts.
92. Kidney Potatoes, 3 lbs.
93. Round ditto, 3 lbs.
94. Six Carrots.
95. Six Parsnips.
96. Six Turnips, white.
97. Six Turnips, yellow.
98. Six heads Red Beet.
99. Six ditto Silver Beet.
100. Six Leeks.
101. Dish of Spinach.
102. Six heads of Celery, white.
103. Six ditto, red.
104. Six Lettuces, cabbage.
105. Six ditto, Coss.
106. Rhubarb, 12 sticks.
107. Collection of Salads.
108. Ditto Garden Produce.

[All the Exhibits in this Class are to be fit for Table use.]

EXTRAS.

Baskets suitable for exhibition of Flowers, Fruits or Vegetables.

Boards ditto, ditto, Cut Flowers.

Model Greenhouse.

Plan for Villa Garden.

Ditto Kitchen Garden.

Group Wax Flowers.

Certificates will be awarded to any deserving Exhibit not enumerated in the foregoing List.

For Amateurs Only.

Class F.—POT GROWN PLANTS, IN FLOWER.

109. Three stove or green-house plants, excluding Fuschias, Geraniums, or Annuals.
110. Single specimen ditto, ditto, ditto.
111. Best Camellia.
112. Best Azalea.
113. Three Gloxinias, varieties.
114. Single specimen Gloxinia.
115. Three Calceolarias, varieties.
116. Single specimen Calceolaria.
117. Three Cinerarias, varieties.
118. Single specimen Cineraria.
119. Three Mimulus, varieties.
120. Three Auriculas, ditto.
121. Three Polyanthus, ditto.
122. Best Primula.
123. Best Potunia.
124. Best Cactus.
125. Three Fuschias, varieties.
126. Three Geraniums, ditto.
127. Three Pelargoniums, ditto.
128. Three Fuschias, ditto.
129. Best Fuschia.
130. Three Roses, varieties.
131. Best specimen Rose.
132. Best specimen Begonia.
133. Best collection Plants, not less than twelve.

Class G.—CUT FLOWERS.

134. Three Anemones, varieties.
135. Three Ranunculus, ditto.
136. Three Tulips, ditto.
137. Three Pansies, ditto.
138. Three Roses, ditto.
139. Three Verbenas, varieties.
140. Six Stocks, varieties.
141. Collection of Cut Flowers.
142. Bouquet for Hand.
143. Ditto Table.

[Honorary Certificates will be awarded to approved Seedlings or Hybrids in any of the foregoing Classes.]

Class H.—VEGETABLES.

144. Three Cauliflowers.
145. Three Cabbages.
146. Asparagus, 25 heads.
147. Dish of Peas, 2 quarts.
148. Best Dish of Potatoes.
149. Collection of Salads.
150. Collection of Vegetables.

RULES FOR EXHIBITORS.

1. Exhibitors must send to the Honorary Secretary in writing, (at the Mechanics' Institution), between the hours of 10 and 6, on the SATURDAY and MONDAY preceding the

Farm-yard manure, if well prepared, may be applied according to the soil, at the rate of from 12 to 18 tons per acre. Lime, which is the most dangerous of all manures to apply in quantity, should be carefully spread. On light and fair soils, it is not safe to apply it at all in its artificial state, unless some vegetable refuse is applied to the land in conjunction with it. But for strong clayey soils, and for such as contain a large portion of vegetable matter, lime is one of the finest known fertilizers. Its presence is absolutely necessary in all cultivated fields, and it has been proved that the value of land has risen, in some instances, from 5s. to 40s. per acre by the use of lime alone. For stiff and strong lands it may be applied at the rate of from 200 to 250 bushels per acre; for light soils from 100 to 150 bushels per acre, in its quick state. In its natural state, as lime or shell-marl, these quantities may be increased from twenty to thirty per cent, or even more. In its slaked state it is best for stiff soils only, and may be applied, according to circumstances, in greater or smaller quantities than those enumerated. In the application of composts much will depend upon the material they are composed of; they should always be made up of such as will add the greatest amount of fertilizing power to the soil to be enriched, and may be applied almost in any quantity, as circumstances direct.

The only other important manure is the liquid, which, reduced to the proper strength, may be applied to any description of crop almost, but to grass lands especially, with the greatest advantage. It may not be generally known that each stall in which cattle are kept will, if properly attended to, produce annually about fifteen tons of solid, and one and a-half tons of liquid manure; a treasure which the more experienced and more intelligent of agriculturists never fail to secure, and to apply to the most advantage.

SILKWORMS EGGS.—We are much indebted to Mr. C. Wilhelmi, of the Botanic Gardens, Melbourne, for a supply of Silkworm's eggs, which we will use discretion in distributing only to such parties as are likely and able to experiment carefully with them.

As an inducement to persons to cultivate Tobacco, we may mention that a Mr. Nicholson, of Albury, has manufactured a quantity of cigars from tobacco raised by himself.

ACCLIMATISATION.

THE THISTLE FLY. (*Cecidomyia Cnici*?)

As Acclimatisation is at present attracting great attention, chiefly through the untiring enthusiasm of Mr. Edward Wilson, I venture to suggest the introduction of a small insect into the colonies, for the purpose of checking the rapidly increasing spread of the Spear Thistle; for my observations in Britain lead me to conclude, that it is very greatly owing to this insect, that thistles do not spread at home as they do here.

When I began to arrange an aviary on a small scale, I had several goldfinches, whose favourite food is the seed of the spear thistle, and hence the bird is called *Distelfink* in Germany. I accordingly collected, around London, a considerable quantity of thistle seed-heads; but though the birds eagerly tried them, I soon remarked that they found little to eat, and flitted about from one head to another, like bees among flowers already sucked dry of their honey. On examining those thistle heads, rejected by the goldfinches, I found that though the feathered down (characteristic of the sub-genus *Cnicus*) was perfect, the seed was wanting; and I was nonplussed to account for the circumstance. I returned to the fields, and was not long in discovering the cause of the seed failure. In the heads just ripening I found numerous very small maggots (*larvæ*), apparently of a two-winged fly, feeding on the yet soft and milky nascent seeds; the cause of the failure was at once obvious. For a period of years I made the same remarks—the number of the maggots (unlike many other insects) differing very little in different years. More than this, I found the same numerous maggots in the seed heads of the spear thistle on the European Continent, where also I had goldfinches in my small aviaries—such as in Normandy, at Havre de Grace, and around Bonn, on the Rhine. In the stemless thistle (*Cnicus acaulis*), plentiful in the Swartzwald and in Switzerland, I also found the same maggots abundant, and of course well accounting for this plant not spreading so as to smother the grass and herbage as the spear thistle does in the colonies.

The dipterous fly, developed from these thistle seed-fed maggots, is most probably of the same or a similar genus to the very minute and destructive Wheat Fly, (*Cecidomyia Tritici*) of which Mr. Kirby says he has seen from eight to twelve females depositing their eggs on a single grain of wheat in the nascent milky state; and he farther says, that if all these eggs were duly hatched (as they are not) and if all the *larvæ* or maggots came to maturity (as they do not) the whole crop of wheat in

Britain would be devoured by these. (*Linn Transact*).

Exhibition, a list of the articles which they purpose exhibiting, stating in the case of Collections, the space which such Exhibits are likely to occupy.

2. Exhibits are to be delivered at the Mechanics' Institution, not later than 10 o'clock a.m., on the morning of Exhibition, and Exhibitors must see that their Exhibits are properly classed and numbered, or they will not be taken into consideration by the Judges.

3. All articles intended for competition are to be the bona fide property of the Exhibitor, and to have been in his possession for at least one month prior to the day of Exhibition. An infringement of this rule will disqualify Exhibitors from taking prizes in any class whatever during the Exhibition.

4. It is desirable that every article exhibited should be neatly and correctly named, and the name conspicuously placed for the convenience of visitors.

5. No article will under any circumstances be allowed to be removed until the conclusion of the Exhibition, and then only with the consent of the Stewards; and it is distinctly understood that all Exhibits are to be considered as the property of the Society during the hours of Exhibition.

6. Any exhibits more or less than the quantity or number stated in the foregoing Schedule, will be disqualified.

7. Members of the Society will be allowed to exhibit free of charge. Exhibitors who are not Members will pay a fee of One Shilling.

8. The Exhibition will be open to the Public from 2 to 6 o'clock, and from 7 until 10 p.m. MEMBERS will be admitted on production of their Cards of Membership; EXHIBITORS, on production of an Exhibitor's Ticket, and the PUBLIC on payment of One Shilling.

9. The decision of the Judges in all cases is to be considered final, but any protest against, or complaint of irregularity in Exhibition, must be lodged with the Honorary Secretary within one hour after the opening of the Exhibition, for the consideration of the Judges.

10. The above Rules and Regulations will be rigidly adhered to.

SAMUEL HANNAFORD,
Honorary Secretary.

DAHLIAS. DAHLIAS.



Kardinia Nursery, Geelong.

Established 1851.

DESIRE to inform the public, that his choice Collection of DAHLIAS, comprising upwards of one hundred and twenty varieties, will shortly be ready to send out; a descriptive list of which can be seen at Mr. Clarkson's, Seedsman.

Also, the Sweet Potatoe, red and white. This delicious vegetable succeeds well in this climate, is easily cultivated, and produced an abundant crop last season in my Nursery. For price, mode of culture, &c., apply as above, or to the Agents:—

Geelong—Mr. Clarkson, 8, Ryrie-street west.

Greswick—Mr. James Rogers, Auctioneer.

Beechworth—Mr. V. Rochlitz.

Notice of Removal.

J. N. REYNOLDS

INTIMATES that he has removed to his new and extensive premises,

VICTORIA SEED STORES,

35, SWANSTON STREET,

(Opposite Bank of Victoria.)

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,

ELIZABETH-STREET, MELBOURNE.

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CASH ADVANCES made upon all kinds of Produce. Weekly Price Current forwarded free upon application.

Britain would be devoured by these. (*Linn Transact*).

Those who are not well acquainted with the habits of insects, might be ready to infer, that, were the Thistle-fly introduced here, it would as readily attack wheat, barley, oats, and maize, as it does the thistle. From a rather extensive acquaintance with insects, I feel assured this idea is quite groundless. Locusts, grass-hoppers, and some few caterpillars, indeed are omnivorous and devour everything green; but the maggots of the Thistle-fly (so far as I know) confine themselves to the genus *Cnicus*; for I have never found them on the *Cardui*, such as the annual Corn-thistle and the Marsh-thistle, (*Silybum Marianum*) now spreading slowly, as near the Plough Inn, Queenscliff Road, and on some parts of the Geelong Railway; the seed of this being too heavy to spread like the Spear-thistle, (*Cnicus lanceolata*). Besides it does not seem known to our colonists, that the leaves of the Milk-thistle make a good salad when well chopped up, and also boil well as greens, while the peeled stems are a good substitute for sea-kale or asparagus; these uses might soon thin their ranks if acted upon.

From the profuse abundance of feed for the maggots of the Thistle-fly in these colonies, and from the milder climate, it is reasonable to think it would very soon multiply to an inconceivable extent, and in proportion would thin the fields of this troublesome weed. The introducing of a few thousands or even millions of the insect would be no difficult or expensive matter. It would be easy, in London, to get on reasonable terms, an amateur insect collector well acquainted with breeding all sorts of insects, and to furnish cabinet specimens, who would collect and take care of the insects on the voyage out. If the eggs could be procured in quantity or even the pupæ, the hatching could be indefinitely prolonged by enclosing the boxes with ice, on the principle first tried by the celebrated Reaumur. He kept the crysalides of the peacock butterfly (*Venessa Io*) in an ice-house, (if I remember aright) for two years, and when brought into warmth, they were duly developed.

When on this interesting subject of Acclimatisation, I may mention here, that a gentleman from New Zealand the other day, told me they were anxious there to introduce the Swallow,—as this bird is not known in New Zealand. The idea is, that by destroying flies in the air, the caterpillars which are so destructive to their crops would be greatly prevented. In this case again, the want of correct knowledge of insect life leads to most erroneous notions; for the caterpillars so destructive to crops, are almost uniformly the *larvæ* of moths, for the most part too large for swallows to eat, and further the moths fly

only at night or in the twilight, when swallows have gone to roost. I scarcely think that swallows would stay in New Zealand. Some time ago, a New Zealand gentleman, Mr. Brodie, shipped from Howe, 300 sparrows, with the intention of acclimating them to destroy the caterpillars. The folly of this was strongly exposed in the *Argus* at the time, on the principle that the sparrows would be more destructive to the crops than the caterpillars, which the sparrows do not themselves eat, but only use them for feeding their young. Those 300 sparrows, however, all died on the passage, as might have been anticipated by a naturalist.

In my next, I shall take up the Acclimatisation of the Cochineal Insect in Victoria. J. R.

TOBACCO CULTURE.

So important do we consider, at this season of agricultural depression, the development of any new interest, which may be alike beneficial to producer and consumer, that we have no hesitation in recapitulating for the benefit of our readers who may be more directly interested, such details with reference to the cultivation of Tobacco, as have from time to time appeared in our contemporary journals, with such additional information as we may possess on the subject. It surely is worthy of serious consideration, since at the present juncture with America, supplies of the article must be precarious, and if it should be of any long continuance, probably cease entirely, or be obtainable only at an enormously high figure. The last years return of agricultural produce (see page 84), certainly showed an increase of 792½ hundred weights grown in this colony, as compared with the previous twelve months, but taking even the demand for sheep washing purposes, that supply would be insignificant in the extreme. Why then are our agricultural friends bewailing the hard times with hands in their pockets, when their attention may be so profitably turned to this and other matters which have been previously advocated in our columns. To those desiring to experiment on Silk, we shall be happy to supply, as far as our stock will permit, the eggs of Silkworms, with which we have been favoured by a kind correspondent; and seeds of the Cotton plant will be given to those who will apply for them, the Government Botanist having kindly placed them at our disposal.

With such facilities for growing Tobacco luxuriantly and profitably here, it certainly does seem a short-sighted policy to allow a sum of from £60,000 to £80,000 to be drained from this colony, in exchange for the quantity imported annually into it; and we hope ere long our Agricultural and Horticultural Societies throughout the colony, will consider it a paramount duty to offer suitable prizes for the leaf of various kinds, such as the exhibitor's soil will admit of his growing, with additional inducements for leaves which are manufactured, an operation which we think should be distinct from growing the plant, since the latter may not unfrequently inter-

WILLIAM CLARKSON,

Seedsman and Florist,

(Agent for Mr. T. Adcock, Kardinia Nursery.)

KITCHEN GARDEN SEEDS, of new and approved sorts; also, a few novelties, all of a vigorous growth, (being tested.)

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Experienced Gardeners Recommended.

New American and Chinese Seeds.

THE Undersigned have just received from America a consignment of the following New varieties of Seeds, which are now on Sale:—

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NURSEYMEN, SEED GROWERS, FLORISTS, &c. beg to intimate that their Priced Catalogues of Trees, Shrubs, Roses, Dahlias, Vegetable and Flower Seeds, &c., is now ready, and may be had on application as above, or at Shed A., No. 26, EASTERN MARKET, MELBOURNE.

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fere with other avocations which demand the attention of the agriculturist. This being the season for planting, we will confine our remarks to a few practical hints for the cultivation of tobacco.

Soil.—Should be a rich loam where obtainable; but for some descriptions, such as Connecticut, Havannah, and others, our common light sandy loam is much better adapted.

Sowing.—A small portion of the land selected should be set apart for a seed bed, and prepared as for onions; the size of course will depend on the extent desired to be cultivated,—four feet by six being sufficiently extensive to raise at least 1,200 plants. The seed, which should be sowed in August, and in moist weather, ought to be mixed with a very fine loam of ashes, then hand spread, a little loam, say a quarter or half an inch deep sifted over it, and covered with boughs for protection from the early morning frosts. To prevent total loss by frost, Messrs. Loughnan and Co. suggest sowing a bed each week for three or four weeks.

Transplanting.—By and by the young plants will need transplanting, an operation which should be performed as early as possible to ensure a good crop, and in moist weather, the land having been previously well broken up and carefully cleared of weeds. The plants should be taken up with a small portion of soil adhering to their roots, and put in with a dibble, in rows three feet apart each way.

Hoeing Up.—When the plants have attained a height of ten to twelve inches, the earth should be carefully hoed up round them, and this operation should be repeatedly performed, not only for the protection of the plants, but to keep down the weeds. In small plantations women and children can attend to this; in extensive ones, a plough will very materially lessen the labor.

Suckering.—To give all possible nutriment to the leaves which are to prove serviceable for manufacture (say six to eight) not a single shoot or sucker should be allowed to grow, but be carefully nipped off, and for this operation, no better instrument could be employed than the thumb nail; the Virginians not only allow it to grow to a great length, but harden it in the flame of a candle for the purpose. So particular were the older American planters in attending to the duties of pruning, and so anxious that the character of their Tobacco should be preserved, that they were enforced by law.

Gathering.—The time for gathering may be known by the leaves as they ripen becoming thicker and rougher, assuming a tint of yellowish green, sometimes mottled with yellowish spots, and emitting a strong perfume. Cutting the plants is not the least important operation in Tobacco culture, and must be performed with some judgment, with a sharp bladed knife, only such plants being selected as are perfectly ripe. The stem should be severed close to the ground, and such plants as have thick stems divided longitudinally to admit the air and expedite the process of drying. The plant should then be gently laid on the ground, so that the leaves be not damaged, and allowed to remain exposed to the sun's rays throughout the day, or until the leaves are entirely "nilted," as it is termed, i.e. till they will bend any way without breaking. This is the American process after

cutting, and Messrs. Loughnan and Co. in their "Hints on the Cultivation of Tobacco in Victoria," recommend that the plant should then be hung up by its butt end in a shed, which must exclude sun and rain, and having facilities for a free circulation of air to dry. After a time the leaves will assume a dark yellow tint, and they may then be plucked from the stalk, tied into bundles of twelve to fourteen with a single leaf, put together into a heap, and as soon as heated, spread out into a shed to cool; perform the same operation again, letting the leaf get thoroughly dry, then pack in bundles for the market, keeping the smaller leaves distinct from the larger.

The authors of the pamphlet quoted above, and also brief "Instructions for the Cultivation of Tobacco," offer a premium of £10, in addition to £112 per ton, the present advertised price, for the first ton of leaf suitable for manufacturing purposes delivered to them in December next. The price they state is high, but if leaf of a suitable description is produced in sufficient quantities, all interested will be well remunerated, both for its growth and manufacture.

In conclusion, we add an extract from the *Ballaarat Star* of the 12th of August, showing the cost of growing and probable yield, and sincerely hope to find the matter engrossing the attention of our readers, and action taken before the season passes away:—

If the 1,288 tons of Tobacco which are imported were cultivated here with the requisite amount of care and attention, the product would be worth 8d. per lb. or £85,866. Allowing 1,960 acres for producing the above quantity, at £30 per acre, the result, £58,800, will leave a nett balance of £27,066. This estimate is formed on the low yield of from 1,300 lb. to 1,400 lb. per acre. During the season for cultivation about 3,000 men and boys would find employment. Of this quantity of 1,288 tons, one half is manufactured, which, if manufactured here, would require about 200 men and boys weekly. Men from 9s. to 10s. per day; boys from 10s. to 12s. per week; total for labour, £16,000 to £17,000. cooperage, say £1,000; other expenses £1,000; making a total for labour of £22,000. If the cost of production and manufacturing expenses be added, it will give a total of £107,866. There is no doubt that the cost of production can be reduced to two-thirds of the amount, or to twenty pounds per acre, by practical farmers, while the presence of large families offer further advantages too obvious to require dwelling upon.

Notes on a few of the best Greenhouse Plants.

The Azalea.—This is one of the very best Spring flowers for the Greenhouse, and may be had in flower for a considerable time, some of the varieties having a tendency to flower early, and others being late. While they may also be advanced or retarded by careful management. As soon as the plants are done flowering, they should be removed from the Greenhouse, to a warm pit to make their new growth, and prepare for the next campaign. They should be kept close and moist for a short time, and when they begin to grow, should, if necessary, be shifted into larger pots, or those that it is not intended to shift, should have the surface of the ball of soil scraped, and a little fresh soil added, where

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FURITERERS, CONFECTIONERS, AND SEEDSMEN,
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SEED OATS, Tartarian and Potatoc.
SEED BARLEY, English and Cape.
SEED WHEAT.—Choice samples of—
White and Red Velvets.
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Tuscan and Talavera.
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Annuals, Biennials, and Perennials, in great variety.

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GRAIN Purchased or Stored, and Advances made at
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FLAT ISLAND GUANO,

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Farmers, beware of the various imitations offered
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much has been washed away, but if only a little has been so washed away, it is not a good plan to put new soil on the top of the ball as that is likely to get dry sooner than the ball, and deceive the Gardener as to the internal state of the ball about moisture. When the plants are to be shifted, some good sandy fibrey black soil, not heavy black soil, should be procured; only the top spit from a common; such, for instance, as where the native heath grows well, should be used, and a little silver sand and a few pieces of charcoal about the size of a small marble, should be mixed with it. The pots should have an inch or two of broken pots or bricks placed in the bottom to secure perfect drainage, and some of the turfy material may be placed over the drainage before the plant is placed in the pot. The root or ball should then be placed on this so that the surface of the ball is about half an inch to an inch, according to the size, below the rim of the pot, and the soil referred to should be carefully put all round the ball, and the pot should then be carefully tapped on the ground or a solid potting table to make all firm round the ball. It must be borne in mind that the ball being much harder generally than the new soil around it, is much more likely to get dry in the centre, though no indication of that may exist for a time, and to prevent this small holes should be made through the old ball with an iron pin or skewer to enable the water to permeate easily through the whole.

After the plants have been shifted, they should be kept close and moist to start them into growth, and when they have finished growth, they should be gradually hardened off by exposure to more air until they are finally removed to the open air, where they can be kept as cool as possible throughout the remaining portion of the summer to produce and perfect their flower buds for another season. If some be required to flower very early, they might be put into a gentle heat, and slightly forced, but not too much or the plants will grow and not flower. Those that it is intended to keep for late flowering, should be kept out in some very cool place until they actually begin to expand their blossoms, but if the weather be very wet care must be taken that the roots do not get sodden. Azaleas may be grown from seeds, from cuttings, or grafts, but they are chiefly, except where new kinds are wanted, raised from cuttings in the usual way. Their roots being very fine require careful attention to watering.

Stephanotis Floribunda.—This is a great favourite with the ladies, and its beautiful clusters of white wax-like flowers standing out from a black ground of magnificent dark green shining leaves, make it an object of attraction to every one. It is a climber, and requires to be grown on a trellis, or a wall, or the roof of the Greenhouse. It may be struck from cuttings put in silver sand, and covered with a bell glass till the cuttings have rooted, when they should be potted off into a mixture of turfy peat or at least light loam, having plenty of fibre in it, and some broken potsherds or charcoal mixed with it. It requires the moderate heat of a Greenhouse, and when not in flower should be well syringed, or where that is not practicable, the leaves should be washed with a sponge and water. It flowers in spring, and continues for a length

of time growing and flowering. It requires a good deal of pot-room, and plenty of drainage. It should be in every collection.

Alamanda Cathartica, and *Schottii*.—Most beautiful plants, requiring a little more heat and moisture than the *Stephanotis*. When done flowering, they should be removed to a cool place to rest and harden their shoots; water should not then be given so freely. When the wood is pretty well hardened they may be pruned in a little, as they flower on the young wood, and early in Spring should be shifted into larger pots if necessary, a mixture of light, fibrey loam, with plenty of drainage, being used. They should then be placed in the warmest part of the house, and be carefully watered and syringed to encourage growth. As they are rather straggling growers they require careful training, and might when flowering have just the very slightest suspicion of manure water once.

(To be continued.)

Popular Garden Flowers.

No. V.

Double Carnation Striped Columbine—*Aquilegia vulgaris*, var. *Caryophylloides*.

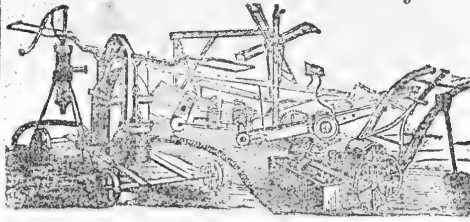
This variety of well known English Columbine, which ornaments the woods and copses in the Spring meadows, with its flowers "Wrought full featously," has been awarded a certificate of Commendation as a distinct and handsome one by the Floral Committee of the Horticultural Society of London; but there is scarcely sufficient persistency in the markings, judging from Mr. Moore's plate, to induce us to confirm that decision.

Messrs. Carter & Co., of Holborn, who exhibited it, states that it was selected five or six years since from a bed of mixed varieties, and has since that time been carefully grown and increased. They also state that it is found to come true from seeds, which are of a light green colour, instead of black, as in the ordinary forms of Columbine. The flowers are large, double, with hose-in-hose petals, white, striped with dull crimson and purplish red.

Amilear Rhododendron. *Rhododendron Catawbiense* (hyb.)

This distinct and remarkably showy plant was raised between a variety called Blandyanum (one of the hybrids obtained from *Catawbiense*, and a variety of *Queen Victoria*, which is a hybrid from *ponticum purpureum*). The flowers of this beautiful shrub, are borne in large terminal clusters, and are exceedingly rich and effective. They are individually of large size, are of a broad, open or shallow, almost rotate form, firm in texture, divided at the margin into five segments, which are broad and rounded in outline. The colour is a deep bright violet-purple, having a slight reddish tinge, quite distinct from the common purples met with in this family, and remarkably attractive. The upper or dorsal segment of the Corolla is marked about the centre with a large patch of intense black spots, which render the flowers much more attractive. Received a first class certificate from the Floral Committee of the Horticultural Society.

Agricultural General Machinery.



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Churns, Anthony's Patent	Turnip Cutters
Oat and Corn Mills, Portable	Wool Presses.

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Guarantee Department.

RATES of Premium determined according to the nature of the situation for which security is required. If a Life Assurance be effected, the guarantee premium will be reduced in proportion to the relative amounts of guarantee and life. When equal, the guarantee premium is only 9s. per cent.

Life Assurance Department.

Life Policies issued upon the faithful representations of assurers are indissoluble.

Three-fourths of the profits of the Society are divisible among the policy holders on the "With Profits" Table of Premiums.

Assurances are granted either with profits, or, at lower rates, without profits.

Premiums may be paid in one sum, or by yearly, half-yearly, or quarterly instalments. They are such as are charged in Europe, and the lowest that can be adopted with full security to the assured and to the Society.

Policies are not forfeited as in other Societies. When four years payments have been made, the policy holder, if unable or unwilling to continue paying, may receive a fresh policy in exchange, equivalent to the then value of the premiums already paid; or a cash payment in purchase of the policy.

Forms of Proposal, and every information, may be had by applying to

MICHAEL O'GRADY,

Secretary, European Assurance Society,
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WHEAT. WHEAT.

THE undersigned are OASIS buyers for delivery at their Mill at Riversdale.

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On Sale,

By the Undersigned,

GALVANIZED FENCING WIRE; Black Fencing Wire and Corn Sacks.

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Splendent Gazania. *Gazania splendens*.

This is indeed a showy and attractive plant, which will assuredly find its way into our flower gardens, where it will be valuable for its rich orange-coloured flowers. It has only recently attracted attention at the metropolitan Exhibitions, and when exhibited in 1859, it received a commendatory certificate from the Floral Committee as a distinct and showy bedding plant.

The flower heads are three to four inches in diameter, the florets of the ray are nearly half an inch broad, overlapping, rich orange yellow, paler behind, and marked at the base with a white spot, surrounded by a blotch of blackish-brown, which becomes quite black at the base, and thus a ring is formed, contrasting richly with the orange coloured florets.

Claud's Cereus or Torch Thistle. *Cereus Claudiana*.

This lovely Cactus, which is much of the character of the well known *C. speciosissimus*, is remarkable for the exquisite colouring and compactness of its flowers. Stems quadrangular, flowers four inches in diameter, funnel-shaped, with numerous petals, which lie in about four series, and are all of nearly equal length, producing a remarkably regular and compact flower cup. The colour of the inner petals is a bright purplish rose, with a streak of crimson down the centre, and the outer series of sepalline divisions, of which the extreme tips are only visible in the spaces between the closely imbricating petals, are crimson. There is a tuft of delicate white stamens, and a style terminated by a twelve-fingered stigma.

Botanical Gardens.

MELBOURNE.

We cannot allow another number to appear without adding our humble tribute of praise of the beautiful Gardens on the banks of the Yarra; the visitor to them some few years since would scarcely believe that in so brief a period so much could be done, or that in the midst of a busy population, so delightful a place of resort could be found. They are profuse of beauties on all sides; whichever way you turn, flowers come—

Creeping, creeping everywhere;
Their humble Song of praise
Most gratefully they raise
To Him at whose command,
They beautify the land,
Creeping, silently creeping everywhere.

And the mild invigorating days of Spring, far more enjoyable than the hot blasts of our Summer, add a zest to our enjoyment of this quiet retreat, and as Milton did with his month of May, "We welcome them, and wish them long."

Go which way you will the gay flowers of the various species of *Acacia*, are overpoweringly sweet; and amongst them should be particularly noticed the *A. imbricata*, discovered some years since at Port Lincoln by Mr. Wilhelm, now for the first time in flower, and intermingling with them, to remind us of the old country, is the old man's beard, or *Oleandra*.

The *Grevilleas* are especially worthy of notice; nor can the large flowers of the *Protea*

mellifera, or Cape Honey-suckle pass unnoticed. Irrespective of their beauty, they are valuable for their yield of honey, which is readily extracted by maceration, and not unfrequently used by the inhabitants of South Africa; there are other Cape plants too in bloom, as *Erica coccinea*, *Mundia spinosa*, *Adenandra uniflora*.

The East Indian *Astrapaea wallachii* suspends its bead-like clusters of crimson blossoms on pendent stalks from beneath the showy leaves; whilst from Western Australia are a *Dryandra* and *Brachysema*, and the curious *Boronia megastigma* with black and yellow flowers; *Daviesia decurrens*, with vertical dagger-shaped leaves; *Guichenotia ledifolia*, *Lobelia stenotheca*, &c. Of rarer plants we may especially call the attention of visitors to the Irish Strawberry tree (*Arbutus unedo*) now flourishing; to the showy *Banksia ericifolia*, of New South Wales, for the first time producing its flowers, as is also the *Correa ferruginea*, which is by far the tallest of the "native fuschias," as they are called. This species is more conspicuous for its size and its large leaves than for its blossoms: which are greenish yellow. In the deep forest ravines between Cape Otway and Apollo Bay, it attains a height of fully thirty feet! On moist highland slopes it is particularly abundant, and its branches are so tough and intricate, that they proved, in Dr. Mueller's ascent of Mount Baw Baw last summer, a greater impediment than any other jungle plant. There is the handsome *Azara integrifolia* of Peru, loaded with clusters of yellow blossoms, contrasting beautifully with the dark green shining leaves; the new Waratah, recently discovered on the sub-alpine eastern frontiers of Gipps Land, and the Bottle Tree of Shark's Bay. But a dry enumeration of all the gems to be found here is not the object of our notice. It is to induce our colonists to pay these Gardens a visit, and at the same time to testify our unbounded gratification at finding that whilst our Government Botanist is overwhelmed with work, more specially appertaining to his department, he can still devote so much of his valuable time to the laying out of grounds, which are alike valuable to the botanist or enjoyable to the pleasure-seeker. Those who with John Keats long

"Once more to hear the thrush's note,"

may be gratified here, for many, we learn, are building this season; nor are the Blackbirds wanting to enliven the scene. Most sincerely do we echo the hope of Dr. Mueller and Mr. Edward Wilson, that visitors to the gardens will use their utmost endeavours to aid them in successfully carrying out their experiments to establish the home birds amongst us, and also to render the gardens a safe retreat to any species of our native Fauna.

The Botanical Museum has lately been enriched by a splendid set of plants, collected by M. Burgeaud, during Palliser's British North American Exploring Expedition; Dr. Regel, director of the Imperial Botanic Garden of Petersburg, has forwarded some collections of dried plants, gathered, for the greater part, on the northern boundary of the Chinese Empire in Russian territory, and are valuable as containing species hitherto unrepresented in the already considerable herbarium at the Botanic Gardens. From professor Hochstetter of Vienna, well known by his geographical and geological researches in New Zealand, have been received

Art Union of Glasgow.

The Specimen Plate for 1861,
"MANY HAPPY RETURNS OF THE DAY."

HAS just been received, and is now on view at Messrs. HEATH and CORBELL'S, Geelong, where also Subscribers' Names are received, and where Prospectuses and all necessary information can be obtained.

The List will be closed about the 21st of September, as the drawing for Prizes takes place in Glasgow at the end of the present year.

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a fine collection of dried plants gathered by Dr. Schimpor in Abyssinia; from Dr. Hance of Whampoa, Chinese Cryptogamic plants; nor was our fellow colonist, Mr. Lockhardt Morton, unmindful of this department in his journey to the north-western parts of the colony.

We need scarcely request our friends to pay the gardens a visit; the fine spring days will make them long for something more than dusty streets, and they will we think find that

"Friendship with the flowers some noble thought begets."

Obituary.

PROFESSOR HENSLOW.

So serious a loss to science is a man like Professor Henslow, whose death occurred on the 16th May last, that we feel it a bounden duty to devote some space in our columns to enumerate, necessarily in a brief manner, the many virtues and acquirements which made him valued and beloved by all who knew him.

Professor Henslow inherited from his father and grandfather his scientific powers and love of natural science, and at an early age he delighted in making excursions on the Medway, hunting for insects, and in rearing them, and observing their habits, and even then he learned how to arrange and systematise, which proved so valuable to him in after life.

In 1814 he entered St. John's College, Cambridge, and graduated as sixteenth Wrangler in 1818, in which year also he joined the Linnean Society; during his career there, Natural Science appears to have been his great aim, in preference to high academic honors. Chemistry, Mineralogy, Geology, all occupying his attention, and in 1819, we find him a Fellow of the Geological Society.

In 1821, when only 23, he contributed some papers on Geology to the Cambridge Philosophical Transactions, which at once raised him to a high position, and it was about this period also, that he commenced the study of Botany, with the same zeal and ardour which had characterised his previous studies, and he soon had formed an herbarium, in which not only the specimens were displayed, but also the structure of their organs, the relations, variations, and aberrations. In 1822 he succeeded Dr. E. D. Clarke, the distinguished traveller, as Professor of Mineralogy, but this he resigned in 1825 to take the Professorship of Botany, vacant by the death of Professor Martyn, (in whose hands it had been a complete sinecure for many years.) To this new post all his energies were directed, until he succeeded in raising it to renown. He lectured on all subjects, made excursions with Entomologists, Conchologists, Geologists, and Antiquaries, each one of his companions deriving information from him.

This Professorship Professor Henslow occupied for fourteen years, and although the income attached to the Chair was very small, it was no obstacle to his instituting weekly evening meetings at his own house for the reception of every one interested in Science, to which all were invited to bring specimens of interest in all its branches, and at these meetings there was free intercourse between men of every degree,—a step which proved of immense importance in diffusing a taste for science, and also in inciting the young men to

intellectual pursuits. Even whilst thus busily engaged, he contributed to the Cambridge Philosophical Society, two papers on a hybrid *Digitalis*, and the structure of the Mignonette which established his reputation amongst continental Naturalists; he wrote the volume on Botany for Lardner's Cyclopædia, a book which has gone through two editions, and a third was under revision at the time of his death.

The farmers of the Eastern Counties were indebted to Professor Henslow, for the discovery of the Coprolite beds, which he showed were invaluable to them, and moreover he printed and distributed amongst the farmers of Suffolk a volume of letters, in which he endeavoured to stimulate them to use methods, to increase the value of their holdings.

But to every one alike did this worthy man give his friendly help; his efforts to improve the condition of his parishioners, under great difficulties and opposition, show how much he had their welfare at heart; his charity was nowhere more conspicuous than in his intercourse with those who differed widely from him; he contributed largely to various charities, and was indeed never appealed to in vain in any cause, the justice and expediency of which were duly authenticated.

For a more extended notice we would refer our readers to the "Gardener's Chronicle" for 1, 8, 15th June; his whole career was an exemplification of his family motto *Quod videris esto*. Be what you seem!

Societies.

Geelong and Western District Agricultural and Horticultural Society.

THIS Society held its Seventh Annual Exhibition on the 5th current, and, whether from a want of due publicity, or waning popularity, (we are unable to say which); it was as far as exhibits are concerned about the worst Show the Society has ever had. It behoves the Committee to enquire well into the cause of the falling off so that it may be in future years removed. That the desire of the public to attend exhibitions of the kind is not diminishing is evident from the large number of persons who went as spectators, somewhere about £120 in shilling admissions having, we are informed, been received at the gates.

Amongst the Stock Mr. Robert McDougal was as usual the leading exhibitor. His short horn bulls, "Regal-koodoo" and "Royal Hope," being as fine examples of that breed as can be seen out of England, and although "Hope" was only second to the "Koo-doo," in the opinion of the Judges, there are those who think that in quality, and a possession of the orthodox points of the breed, he was not surpassed by the far-famed "Master Buttersly" himself. We could not understand the decision of the Judges with reference to Mr. Cochrane's two-year old bull, "Welcome Guest." If the first prize was awarded to the Mongrel bred animal, which was the only exhibit in Class 3, surely Mr. Cochrane's Bull was much more entitled to a first prize in his Class where he was the only exhibit. This was a glaring mistake in our opinion. There can be no mistake about his being a pure shorthorn, and perhaps that is more than can be said of

the other. Mr. McDougal's "Peg Farmer" still maintained her laurels in the Cow Class, although we think he has cows superior to her in every respect. The Horse Stock was good, particularly promising in the young departments. Messrs. McIntosh's "Champion" took the Champion Cup, and in our opinion ought to beat anywhere their other champion, "Prince Charlie." Mr. Austin's "Oxford," and "Lord of the Manor," were second and third. Amongst Colonial Entire, "Van Tromp" maintained his pride of place, but there were youngsters in the Show Yard that will shortly deprive him of it. Some twenty-five Entire were exhibited. Amongst the blood, "Boiardo" and "Thames" were first and second, the former Mr. Austin's, the latter Mr. Bell's. "Bayard," a very promising racing looking Colt, from "Boiardo," obtained a second prize. The Draught Mares were not so good as we have seen them, and this is to be regretted. The dams as well as the sires must be good to throw good Stock. Sheep were not numerous; Messrs. Learmonth and J. Bell, dividing the honors in the Merino Classes, and Messrs. Austin Maidment and Milliar having it all their own way with some fine Leicesters. Mr. Sladen had a good cross between Leicesters and Merinos which took our fancy, they obtained a prize as did Mr. Bell's Cotswolds. Mr. Russell was supreme with fat Lambs and Wedders. Of Pigs there were some good exhibits, Mr. D. G. Clarke, Mr. Lowe, and Mr. H. S. Wills, still turning out the right stamp and obtaining the prizes. Poultry was not so numerous as last year, though they were good in many of the Classes. Mr. Holmes was again first with Cochins, and Mr. Main with Spanish, although one of his coops which took the first prize and Champion cup was disqualified afterwards, from the Stewards having expressed an opinion that a little paint or other similar material had got on the face of the Cock. There was only one exhibit of Dorkings, and this was not first class. Game were numerous and good, Mr. Lyttleton and Mr. Jaffray of New Town, being first and second.

Implements and Machinery occupied a considerable space, but there was nothing very new worthy of note, if we except improvements in Reaping machines, and a new Grape Crusher, exhibited by Messrs. T. Robertson and Co., to whom the Society is largely indebted for the numerous implements they exhibit. The yard would be bare indeed without them.

We have not space to enter into further particulars as we would have been glad to do. We only hope that another year the Society will have reason to congratulate itself on a great improvement on the present year, and by judicious advertising, &c., regain its pristine vigour.

The following are the awards:—

NEAT CATTLE.—BULLS.

- Class 3.
1. Short-horned Bull, of any age, first prize, £10, "The Regal Koodoo," R. McDougal, Glenroy.
 2. Ditto, second prize, gold medal, "Royal Hope," R. McDougal, Glenroy.
 3. Two-year-old short-horned Bull, second prize, 1st silver medal, "Welcome Guest," J. C. Cochrane.
 4. One-year-old short-horned Bull, prize, 1st silver medal, Mr. McAndrew.
 5. Hereford Bull, of any age, second prize, 1st silver medal, "Duke," Miss Newcomb.
 6. Colonial-bred short-horned Bull, (same as shown in class 2), second prize, gold medal.

COWS AND HEIFERS.

11. Short-horned Cow, first prize, gold medal, "Peg Farmer," R. McDougal, Glenroy.
12. Ditto, second prize, silver medal, Mr. McAndrew.
13. One-year-old Heifer, first prize, silver medal, "Dahlia the 5th," R. McDougal, Glenroy.

DAIRY STOCK.

16. Cow, in milk or in calf, first prize, gold medal, "Dahlia the 2nd," R. McDougal, Glenroy.
17. Ditto, second prize, silver medal, Mr. Robert Barker.
18. Ditto, honorary certificate, Mr. John Heard.

FAT STOCK, (GRASS FED.)

17. Fat Cow or Heifer, first prize, silver medal, Mr. Edwin Lascelles.
18. Fat Ox, first prize, gold medal, Mr. Edwin Lascelles.
19. Ditto, second prize, silver medal, Mr. John Calvert.
20. Ditto, honorary certificate, Mr. John Lowe.

DRAUGHT HORSES.

22. Stallion, first prize, £15, "Champion," a bright bay Clydesdale, J. & M. McIntosh, Melbourne.
23. Ditto, Champion Cup.
24. Ditto, second prize, £8, "Young Oxford," 6 years old, Messrs. Austin, Maidment & Milliar.
25. Ditto, third prize, gold medal, "Lord of the Manor," Messrs. Austin, Maidment & Milliar.
26. Colonial-bred Stallion, first prize, £10, "Van Tromp," Mr. Charles Wyatt, Fyansford.
27. Ditto, second prize, gold medal, "Samson," Miss Newcomb.
28. Stallion foaled in 1858, first prize, silver medal, "Donald," Frank Fawcett, Geelong.
29. Ditto, second prize, 2nd silver medal, "Robin Hood," Mr. Anthony Devine, Point Henry.
30. Colt or Gelding foaled in 1859, "Emperor Napoleon," shown by Mr. Thomas Gange, Coryeule. Highly commended.
31. Entire colt foaled in 1859, first prize, silver medal, Mr. Thomas Skilling, Melbourne.
32. Ditto, "Napoleon," second silver medal, Mr. Henry Davies, Bellerine.
33. Colt or Gelding foaled in 1860, shown by Mr. Gillespie, Shelford, a prize.
34. Brood Mare, foaled or in foal, first prize, gold medal, Mr. James McAndrew, Bellerine.
35. Ditto, second prize, silver medal, Mr. Thomas Hall, Sutherland's Creek.
36. Filly foaled in 1859, first prize, 1st silver medal, Mr. John Heard, Balacklay.
37. Ditto, second prize, silver medal, Mr. Thomas Hall, Sutherland's Creek.
38. Cart Horse (Mare or Gelding) that has been constantly at work during the previous six months, exhibited in the harness in common use, prize, silver medal, Reynolds & English, Melbourne.

BLOOD HORSES.

33. Thorough-bred weight-carrying Stallion, first prize, £12, "Boiardo," Austin, Maidment & Milliar.
34. Ditto, second prize, gold medal, Mr. John Bell.
35. Brood Mare, foaled or in foal, second prize, 1st silver medal, "Black Phantom," Mr. John Bell.
36. Hackney Mare or Gelding, by a thorough-bred horse, or out of a thorough-bred mare, prize, 1st silver medal, Mrs. Milner, Colac.
37. Carriage Mare or Gelding, prize, 1st silver medal, Mr. John Calvert.

PONY.

37. Pony, not under 12 nor over 13½ hands, first prize, 1st silver medal, Leonard M. Calvert.
38. Ditto, second prize, 2nd silver medal, John Calvert, jun.

SHEEP.

40. Pen of five Merino Rams in the wool, first prize, £10, Thomas Learmonth, Ercildown.
41. Ditto, second prize, gold medal, John Bell.
42. Pen of five Merino Ewes in the wool, first prize, gold medal, Thomas Learmonth, Ercildown.
43. Ditto, second prize, 1st silver medal, John Bell.
44. Pen of three Leicester Rams, first prize, gold medal, Austin, Maidment & Milliar.
45. Ditto, second prize, 1st silver medal, John Bell.
46. Pen of three Leicester Ewes, first prize, 1st silver medal, Austin, Maidment & Milliar.
47. Ditto, second prize, 2nd silver medal, John Bell.
48. Pen of three Rams of any other breed than the above, whether pure or crossed, first prize, 1st silver medal, Cotswolds, John Bull.
49. Ditto, second prize, 2nd silver medal, John Bull.
50. Pen of three Ewes of any other breed than the above, whether pure or crossed, first prize, 1st silver medal, Charles Sladen.
51. Ditto, second prize, 2nd silver medal, John Lowe.
52. Pen of ten fat Lambs of any other breed, lambled in and after April, prize, 1st silver medal, George Russell, Shelford.
53. Pen of ten fat Merino Wedders, prize, 1st silver medal, George Russell, Shelford. Honorable mention John Bell.
54. Pen of five fat Wedders of any other breed, whether pure or crossed, prize, 1st silver medal, John Lowe.

PIGS, (SMALL BREED.)

53. Boar of any breed, first prize, 1st silver medal, D. G. Clarke, Melbourne.
 59. Sow of any breed, first prize, 1st silver medal, D. G. Clarke, Melbourne.
 Ditto, second prize, 2nd silver medal, John Lowe, Geelong.
 Third exhibit, D. G. Clarke, honorary certificate.
 60. Three Pigs, not more than three months old, prize, 2nd silver medal, D. G. Clarke.
 61. Fat Pig, prize, 1st silver medal, D. G. Clarke.

PIGS, (LARGE BREED.)

62. Boar of any-breed, George Jenkyns, Fyansford, a prize.
 63. Sow of any breed, first prize, 1st silver medal, H. S. Wills, Geelong.
 Ditto, second prize, 2nd silver medal, John Lowe.
 64. Three Pigs, not more than three months old, prize, 2nd silver medal, John Lowe.
 65. Fat Pig, prize, first silver medal, John Lowe.

POULTRY, &c.

66. Cochon China Fowls, first prize, 2nd silver medal, John Holmes.
 Ditto, second prize, bronze medal, D. G. Clarke, Melbourne.
 67. Dorking Fowls, first prize, 2nd silver medal, Thos. Ogilvie.
 Ditto, second prize, bronze medal, D. G. Clarke.
 68. Spanish Fowls, first prize, 2nd silver medal, J. M. Main.
 Ditto, second prize, bronze medal, D. G. Clarke.
 69. Hamburg Fowls, first prize, 2nd silver medal, D. G. Clarke.
 Ditto, second prize, bronze medal, J. Chapple, Frishtown.
 70. Poland Fowls, first prize, silver medal, D. G. Clarke.
 71. Fancy Fowls of any breed, first prize, 2nd silver medal, John Holmes.
 Ditto, second prize, bronze medal, Silas Harding.
 72. Fowls of any breed, second prize, bronze medal, W. Armour, Ceres, for white Malays.
 Best coop of Fowls in all the classes, silver cup, J. M. Main.
 73. Game, first prize, 2nd silver medal, Thos. Lyttleton, Geelong.
 Ditto, second prize, bronze medal, Thos. Jeffreys, Geelong.
 75. Pair of Geese, second prize, bronze medal, John Herd.
 76. Pair of Ducks, second prize, bronze medal, J. B. Wallace, Moorlap.
 77. Pair of Turkeys, a prize, Thomas Powell, Claremont.
 78. Lot of Rabbits, second prize, 2nd silver medal, J. Holmes.

PRODUCE.

79. Four lbs. Fresh Butter, in pounds or half pounds, with or without salt, first prize, 1st silver medal, Mrs. Frazer, Indented Heads.
 Ditto, second prize, 2nd silver medal, J. Miller, Batesford.
 Ditto, honorary certificate, Mrs. McAndrew, Geelong.
 80. Keg or jar of Salt Butter, not less than fourteen pounds, first prize, 1st silver medal, J. Miller.
 Ditto, second prize, 2nd silver medal, Wm. Jewell.
 82. Ham, prize, 2nd silver medal, John Heard, Balacklay.
 83. Bacon, flitch of bacon, prize, 2nd silver medal, Miss Newcomb.

IMPLEMENTS.

85. Wheel Plough, prize, 1st silver medal, John Tynan, Ballarat.
 86. Swing Plough, prize, 1st silver medal, T. Robinson and Co., Melbourne.
 88. Subsoil Plough, prize, 1st silver medal, Wm. Roadknight, Geelong.
 89. Drill Plough, prize, 2nd silver medal, T. Robinson & Co.
 90. Scarifier, prize, 1st silver medal, T. Robinson and Co.
 91. Grubber, prize, 1st silver medal, W. Roadknight.
 93. Set of Harrows for grass seeds, prize, 2nd silver medal, T. Robinson and Co.
 97. Broadcast Sowing Machine, prize, 1st silver medal, D. McLean, Duned.
 98. Horse Seed Drill, prize, 1st silver medal, Holmes, White and Co., Geelong.
 99. Hand Drill, prize, 2nd silver medal, T. Robinson and Co.
 100. Horse Hoe, prize, 1st silver medal, T. Robinson and Co.
 101. Potatoe Digger, prize, 1st silver medal, T. Robinson & Co.
 102. Horse Hay-rake, prize, 2nd silver medal, A. Crooks, Geelong.
 104. Reaper only, prize, 1st silver medal, T. Robinson and Co.
 108. Steam Threshing Machine, first prize, £10, Thos. Smale, Barrabool.
 Ditto, second prize, gold medal, Holmes, White and Co.
 109. Four-horse Threshing Machine, prize, 1st silver medal, Barrett, Excell and Andrews, Melbourne.
 110. Winnowing Machine, first prize, 1st silver medal, A. Crooks.
 Ditto, second prize, 2nd silver medal, T. Robinson and Co.
 111. Chaff-cutting Machine (horse or steam-power), prize, 1st silver medal, Warhurst and Son, Melbourne.
 112. Chaff-cutting Machine (hand-power), prize, 2nd silver medal, Warhurst and Son.
 113. Crusher (horse or steam-power), prize, 1st silver medal, T. Robinson and Co.
 114. Crusher (hand-power), prize, 2nd silver medal, T. Robinson and Co.
 118. Set of Equalizing Swingle Trees, prize, 2nd silver medal, T. Robinson and Co.
 119. Collection of farm and garden Tools, prize, 1st silver medal, A. Crooks.
 121. Wagon for general purposes, prize, 2nd silver medal, T. Smale.
 124. Churn, prize, 2nd silver medal, A. Crooks.
 126. Field Gate with hangings, prize, 1st silver medal, John Heard.
 127. Pig Trough, prize, 2nd silver medal, T. Robinson and Co.

EXTRAS.

- Cheese Press—Jacks & Co., A. Crooks, a prize

Richmond's Two-horse power—T. Robinson & Co., a prize.
 Circular Saw Table—T. Robinson & Co., a prize.
 Sack Holder—T. Robinson & Co., a prize.
 Grape Mill—T. Robinson & Co., a prize.
 Assortment of Basketware—Thomas Sheckell, Geelong, three prizes.
 Collection of Saddlery—Marsh & Johnstone, a prize.
 Saddles—P. Allinson, a prize.
 Bits—T. Allinson, a prize.
 Scoured Lambs' Wool—Alfred Douglass & Co., 1st prize.
 A Colt foaled in 1859—"Bayard," William Warren, Ballarat, 1st prize.
 Colonial Oatmeal—exhibited by J. H. Turner, Moorabool-street, highly commended.
 Colonial Soap and Candles—exhibited by R. H. Bullock, honorary certificate.
 A specimen of the Tea Plant, in pot—Alex. Mackenzie, South Barwon, 1st prize.
 A Fine sample of Wine, this year's growth—Alex. Mackenzie, 1st prize.
 A Single and Double Buggy—built by Messrs. Thornburn & Sons, Moorabool-street, much admired by the visitors, as a piece of superior colonial workmanship in that department of trade.

THE ANNUAL DINNER

was held in the evening at Mack's Hotel, and was well attended. The Honorable W. C. Haines, M.L.A., President of the Society, occupied the Chair, and Messrs. Charles Sladen and Alfred Douglass acted as croupiers. Amongst the company we observed the Honorable Messrs. Power and Mitchell; Messrs. John Bell, George Russell, Cummins, M.L.A.; Lalor, M.L.A.; McKenzie, Campbell, Mack, Anderson, Robinson, McDonald, &c.

The usual loyal toasts were drunk in that enthusiastic manner peculiar to the true British farmer, and the health of the Governor, the Patron of the Society, was received in the same warm manner.

Mr. Mitchell, M.L.C., then proposed "Success to the Society," in an excellent practical speech which was responded to by Mr. Haines, M.L.A.

In proposing the successful competitors, Mr. Sladen took occasion to remark on the great falling off that was apparent in the Exhibition of the day as compared with shows of past years, and urged upon residents of the district the desirability of rescuing the Western District from the disgrace that attached to being beaten on their own ground by exhibitors from a less favoured district both as regards soil and climate.

The Western District Pastoral and Agricultural Society.

THE Annual Exhibition of this Society was held on Thursday, the 29th ult., at Skipton. The weather was exceedingly fine, and the attendance pretty numerous, about 500 persons being present. The little hamlet of Skipton is situated on the banks of the Emu Creek, partly hidden in a valley, while on each side of the river a boundless plain without either bush or tree, meets the eye, over which roam at will thousands of sheep, the only tenants of this vast extent of territory. The "lords of beef and mutton" here reign paramount, and tillage is altogether ignored, with the exception of a few gardens attached to some houses in the village. The show was held a short distance from the Ripon Hotel, and from an early hour in the morning, stock of every description, particularly sheep, were being driven towards the pens prepared for their reception. Indeed, the exhibition, properly speaking, was one of sheep, and the quality of those exhibited, especially by Mr. Currie and Mr. Learmonth, was first-class, and, as may be imagined, these two gentlemen carried off several of the prizes. A Merino ram exhibited by Mr. Currie attracted considerable attention. It was only sixteen months old, of an extraordinary size, and was the heaviest animal of his age at the exhibition. His wool, too, was of a choice description, and remarkably fine. Some

Merino ewes exhibited by the same gentleman were of a very large size, and their fleeces of a first-rate quality. Mr. Learmonth's Merino rams and other sheep also received marked attention, and were awarded a large number of prizes. It has been acknowledged that during the last few years this department of stock has been considerably improved by judicious crossing. Some Leicester and German rams were exhibited, but were not in such esteem as the Merinos. The exhibition of entire horses and brood mares was good. The first prize of £10 was awarded to Mr. Thomas Bath's "Sampson," and the second prize of £5 to Mr. Donald Stewart's "George Buchannan." Mr. Thomas Learmonth was awarded the first prize of £10 for the best mare of the draught breed, and Mr. Phillip Russell the first prize of £10 for the best colonial entire. Mr. Williamson's entire horse "Mount Bolton," was awarded the second prize of £5 in the class. Mr. George Brown received two prizes of £5 each for the best thoroughbred blood mare, and a third prize of £5 for the best animal of the kind exhibited. Very few swine were exhibited. The exhibition of horned cattle was also meagre. Mr. Learmonth exhibited some handsome Hereford cows, and a bull of the same description. Mr. T. R. Oddie exhibited a large Durham bull, but in consequence of having exhibited the animal at a former Show, when he was awarded the prize, the judges passed him over this time. In the bullock department, two oxen exhibited by Mr. Ware were the largest in the show, and their sides were actually shaking with fat.

In agricultural produce and implements, the display was very limited. The same may, with much propriety, be said of dairy produce, poultry, home-made bread, and colonial knit socks. In these articles we certainly expected a better display, especially as the Society issued a very liberal programme, and one that should have induced housewives to pay some attention to the manufacture and exhibition of this class of exhibits.

After the judge's awards, a consultation was held amongst the auctioneers on the ground as to who should have the priority of sale, when it was decided that Mr. Carver should inaugurate the proceedings. He commenced by putting up some 40 pens of Merino rams, the property of Mr. Currie. The bidding for these was very brisk, and the competition, in many instances, rather keen. The whole lot, number 616, fetched in the aggregate £3393 11s. 6d. The prices ranged from £4 4s. to £7 7s. per ram, or on an average £5 10s. 2d. each. Mr. Carver next put up the colonial bred entire horse "Blaze," belonging to Mr. Aitken, when Mr. Ritchie became the purchaser at £100. Mr. Bath's "Sampson" and "Champion" were next offered for sale, and after several bids both horses were bought in; the former at £350 and the latter at £220. Mr. Carver next offered some German imported rams, and five Leicester rams, but there were no bids for them. The shortness of the wool was a matter of complaint among stock-owners, but they were represented as having been recently shorn. The latter were subsequently sold by private treaty for £30, or £6 each, although it was stated that they originally cost £40 each in England. Mr. Frazer, of Geelong, next disposed of 19 pens of Merino rams, at prices ranging from £4 1s. to £7 19s. per head. Mr. Ogilvie, of the same place, sold 17 pens of the same class of rams, at prices ranging from £3 12s. 6d. to £4 5s. each. Several other lots that were put up to auction did not find purchasers. These were the only sales effected that came under our notice, although we heard that some private ones were effected. There can be no doubt but in a few years this annual gathering will become what a stock-owner termed it—a "great ram fair."

THE DINNER.—About one hundred gentlemen sat down in a marquee on the ground. The chair was occupied by Mr. Colin Campbell, the president of the society. He was supported on the right by Mr. Clough and Mr. George Brown, and on the left by

Mr. Lempriere. The vice-chair was filled by Mr. Thomas Learmonth, of Ercildoun, supported on the left by Mr. Shaw, the secretary of the society, and on the right by Mr. Currie.

Horticultural Improvement Society.

The usual monthly meeting of this flourishing Society took place on Wednesday, 14th August, and notwithstanding the unfavourable state of the weather, it was well attended by both town and country members.

Mr. Thomas Adcock, of the Kardinia Nursery, occupied the chair. The minutes of the previous meeting having been read and confirmed, and several new members proposed, it was decided that one month should elapse after the reading of any paper before its discussion by the Society, so as to enable the members to mature their ideas on the subject of which it treated.

Mr. Batson, of Herne Hill, read a very interesting paper on "Vine Culture," which appeared in our last issue.

This paper having been discussed at great length by a large number of the members, it was by mutual consent decided to resume it at the next monthly meeting. Mr. Batson then gave illustrations of his ideas of vine pruning by experimenting on some canes one to four years old.

William Roope, Esq., who was present as a visitor, gave a most interesting account of a recent visit to the vineyards of New South Wales, as well as his experiences in vine culture in the home country, for which the thanks of the meeting were awarded to him.

Mr. King exhibited a good seedling Cineraria.

A long conversation followed as to the desirability of postponing the Spring Exhibition, (which had been already fixed for the 19th September), in consequence of the lateness of the season; and it was eventually determined that a special meeting of the members be held on Wednesday evening, at seven o'clock, to learn then the general feeling on the subject.

Mr. Henry Adcock gave notice of a paper on "Budding," at the next monthly meeting.

At the meeting held on Wednesday, the 21st August, it was unanimously decided that the Spring Exhibition of the Society be postponed to Thursday, the tenth (10th) October next.

Horticultural Society of Victoria.

The usual monthly meeting of the committee of the Horticultural Society of Victoria was held on the 4th instant, at their offices, 31, Swanston-street, Mr. Henry Box in the chair. The committee of superintendence reported that the work in the Horticultural and Experimental Gardens is progressing favourably, the ornamental part being nearly completed. The formation of the terraces, involving the removal of several thousand tons of earth, which has been so much impeded by the continued rains, is (the report said) beginning to assume a more workmanlike appearance, and in another fortnight, if the weather continues to be fine, the greater portion of the heavy work will be finished. Planting has been carried on vigorously, and the many valuable collections of plants forwarded by gentlemen, in response to the appeal made by the committee a short time since, have been placed in the situations most suitable for them. The list of the donors and the contributions was ordered to be published very shortly. In thanking those who have so freely given, the committee expressed a hope that the example would be followed by all interested in the progress of Horticulture in the Colony. The Hon. Secretary reported that since the last financial statement read on the 1st of June last, the Society had expended over £400.

Victorian Gardeners' Mutual Improvement Society.

The usual monthly meeting took place on the 26th ultimo, the President occupying the chair.

Mr. F. Smith laid on the table a sample of olive oil made by Mr. Caulfield, of Toorak, which was perfectly inodorous.

Mr. Duncan read a very interesting paper on "Devastating Insects," in the course of which, after reciting the various modes of destruction of insect pests, practised by gardeners a century since, he noticed the advance that has been made in this branch of horticulture, through the application of scientific principles, and instanced the practice of the late Mr. Baldwin in the growth of Pines. The treatment of American blight of recent and former years was next contrasted, but Mr. Duncan mainly insisted upon disease as the cause of attack. He stated that diseased plants alone were subject to injury from such causes; thus before the apple could be susceptible of an attack from blight, it must have fallen into a bad state of health. Plants were very liable to attack when suffering from transplanting, at which time they might be considered in an unhealthy state from deprivation of their fibrous roots. The only remedy consistent with scientific truth was that propounded by Mr. Baldwin, "high and healthy cultivation" and the old plan of anointing and daubing, was unscrupulously condemned as suited only to the darker ages of horticulture.

A discussion on the paper, which was a lengthy one, followed; and the President having vacated the chair, addressed the meeting at some length in opposition to Mr. Duncan's views, and the majority of the members present, ruled that "healthy or high cultivation will only partially prevent the attacks of such insects as live by sucking the juices of the plant."

It was decided to hold a general show in the Botanical Gardens, which Dr. Mueller had kindly consented to place at the disposal of the Society for the purpose, some time in November next.

Twelve Bahia, or navel Oranges, from trees three years old, grown at the seat of the Hon. J. H. Brooke, Mount Eagle, Heidelberg, were commended, and regarded as a most encouraging fact in view of the future cultivation of this fruit in Victoria.* Three Siletta Oranges, from Mr. Carson, of Kew, obtained a first-class certificate, and the same gentleman had Limes, Lemons, and Shaddocks.

Ten Camellia blooms, by Mr. Robert Reid, were highly commended.

[* Since the above meeting, the *Argus* reports having received a large and handsome Orange, twelve inches in circumference by eleven inches, the produce of a young tree, and also a Lemon which measures eleven and a half inches by nine inches, both were grown at the garden of D. C. McArthur, Esq., which adjoins that of Mr. Brooke, at Heidelberg.]

Ballarat Horticultural Association.

At the monthly meeting of the members of the above association, Mr. William Elliot read the following paper upon

STREET GARDENS.

Mr. President and Gentlemen,

Being of opinion that our monthly meetings might be rendered profitable not only in increasing our own stock of knowledge, but in extending information to the community at large, and that one of the most direct means of furthering those ends is to discuss and give publicity to papers or treatises on various branches of horticultural and kindred subjects in which our society is interested. And, as at every step we may take in the neighbourhood of Ballarat, we perceive evidence of a rapidly increasing development of the taste for gardening, it may well become us as members of this

society to lend our assistance in furthering so laudable a taste among our friends and neighbours, and, if possible, correcting and leading it according to principles, in pointing out to those who may not have had opportunities of studying or of witnessing the practice of ornamental and useful gardening, the means whereby they may most effectually attain the accomplishment of their desires. Feeling anxious that we should lose no time, but make a commencement at this the first of what I trust will prove a long series of monthly meetings, I have therefore thrown together a few ideas on a subject of interest to every one who is in possession of a piece of ground. And I hope that you may not deem the subject of street gardens unworthy your attention; and I must crave your indulgence for bringing before you so imperfect an essay, for at this busy season one has not much leisure. However, I trust it will provoke discussion, and so throw the knowledge of each into a general fund for the benefit of the whole, which I have always found to be the greatest advantage of papers being read at meetings such as this. Taking small gardens as they exist, a very common fault in them is what I may term a want of simplicity. People generally attempt more than they have the means of accomplishing, and are in too great a hurry to have something that will please the eye at once, without looking to future results, and thus they endeavour, by a multiplicity of gimerack figures, to make their gardens pretty, without paying due attention to the selection or growth of plants suitable for the situation. And in gardening, as in many other things, the majority will follow the example of their neighbors rather than study to attain a knowledge of principles upon which to act; thus we may see in every street, copies, with little variation, of the same design, whether suitable or not—generally a straight walk between two circles. Even in the same garden may be observed such a want of originality as to display a second copy of the everlasting two circles. In another case may be seen a flower bed laid down directly between the entrance gate and the door of the house, so that a visitor after dark is liable to walk into a rose-bush. It may be well to say a few words on the preparation of the soil, which is the first thing to be considered, for on that the whole amount of success depends. If not naturally sufficiently pervious to water, it should be thoroughly drained, otherwise none but the most robust plants will thrive in it; then trenched and enriched to the depth of at least 18 inches, and not only those portions where the flower-beds are to be formed, but the whole of the ground; and then it will be fit for the operations of planting, &c. As I before observed, the most prevalent fault in small gardens is attempting too much. People see a beautiful combination of figures on a proper scale in the garden of a friend or neighbour, and naturally desire to have something similar; and, without considering whether the same is at all suitable for their own case, set to work and cut up a small piece of ground into a multiplicity of beds and narrow walks, which, while new, may look pretty in themselves, but can never harmonize with surrounding objects or give a satisfactory result; for the paths are too narrow to be walked on with comfort, and, from the small size of the beds, only a very limited number of sorts of plants could attain to a perfect development in them. In making a design for a garden, of whatever extent, there are three principles which ought to be steadfastly adhered to: these are—utility, fitness, and unity. The principle of utility may be displayed in the width and direction of the paths, which should be of a width adapted to the number of people expected to walk abreast on them. The narrowest should be of such a width that a single person can move about comfortably without being in danger of stepping on the edgings or brushing the plants with the dress; while main paths, such as lead from the entrance to the door of the house, should be wide enough to admit of at least two persons abreast; and all paths should lead directly to where people wish to go.

Nor should there be a path without an object, for it is absurd to lay down paths that are of no use, and leading to nothing in particular, or where no body cares to walk. The paths should thus be fitted to the extent of the ground, and the beds and all other accessories should be adapted to the purpose for which they are intended, so that a bed for dahlias may not be so small as to be fit only for verbenas, and *vice versa*. The principle of fitness is most particularly to be studied in the choice of plants and trees for the ornamentation of gardens, and as this knowledge can only be obtained by practice and experience, I may be allowed to remark that it would be greatly to the advantage of individuals planting gardens if they were to leave the choice of plants to the nurserymen who supplies them, so that the sorts, especially of trees and shrubs, may be such as will ultimately attain a size corresponding with the extent of the ground. A garden should harmonise with the house and other surrounding objects, so as to have the appearance of belonging to them, and forming a portion of a whole, in accordance with the principle of unity; therefore it is imperative that very small gardens should be designed in the regular or geometrical style, for anything in the natural style with its irregularities of outline in proximity to a building would appear incongruous. Generally straight-lined figures, such as parallelograms, have the best effect when the plants in them have attained a considerable amount of development, for upon a proper selection and distribution of plants depends the ultimate beauty and effectiveness of any garden, much more than any arrangement of figures, however pretty such may appear either on paper or on the ground. In very few street gardens is there room for those ornamental accessories which contribute so much to the beauty of gardens on a large scale, yet even in the smallest a tasteful mind will hit upon something to increase the interest and beauty of the place in the shape of an arbor, a vase, or perhaps a tasteful arrangement of climbers. And with these few crude remarks, gentlemen, I will leave the subject in your hands.

A discussion then took place on the paper read, when Dr. Kenworthy instanced the beautiful effects of street planting in Philadelphia, and Mr. Lang having expounded his views on the subject, Mr. Newman followed, and was succeeded by Mr. Elliott, who wound up the discussion in support of the views propounded in his paper, and was accorded a vote of thanks; after which, the proceedings terminated.—*Star*.

Trees for Street Planting.

[The Newtown and Chilwell Municipal Council have, with much courtesy, handed us a communication, recently received from the Town Clerk to the Corporation of Adelaide, relative to experiments made by that body in the planting of indigenous and other trees, and enclosing an interesting letter from Mr. Francis, the Superintendent of the Botanic Gardens in Adelaide, which we gladly print to supplement the letters of Dr. Mueller and Mr. Bunce, which have previously appeared in our pages.—ED GAZETTE.]

The acquisition of shade, and the agreeable appearance of trees in lines and avenues, are evidently the chief causes for the planting of trees in the wider streets, terraces, and squares of the city, or to bound the roads leading to it.

Bearing this in mind, the planter is much circumscribed in his choice. Few trees are applicable to such purposes, and some of them are objectionable on other accounts. They must be handsome, at all times umbrageous, durable, of rapid growth, and, of course, suitable to the climate.

In a country like this, the greatest difficulties to contend with are heat, drought, and hardness of soil around the roots. For obvious reasons we

must exclude all deciduous trees, such as the Oak, Elm, Chesnut, Ash, Willow, Poplar, Tulip tree, Lime or Linden tree, and the Melia or Bead tree. All these except the last, are of stunted growth in hot dry situations. All deciduous trees, shedding their leaves annually, the streets would not only be littered with falling leaves, but the trees without beauty for some months during each year. The Melia, Bead tree, or White Cedar, has been often recommended, but, although umbrageous and beautiful, the above defect attends it, and the berries moreover are reputed to be poisonous.

From the evergreen trees we are driven to a small selection; those of tropical growth are destroyed by the frost of winter. We have therefore only the Evergreen Oak, the Olive, and various of the gum trees. It is true that, for general planting, other evergreens might be mentioned, as the Shea Oak, the Banksia or Honeysuckle; but surely no one would advise these for avenues or street planting. The Evergreen Oak grows rapidly and to a large size at the Cape of Good Hope, and in America, where it is used for those purposes, but on the plains of Adelaide it merely exists, struggling with a growth of only 3 or 4 inches per year. The Olive is scarcely appropriate from its manner of growth. In a plantation it is valuable and ornamental, in streets not to be recommended. We are obliged therefore to content ourselves with native trees, or, in fact to the different species of gum trees.

Three or four years ago, the Blue Gum of Tasmania (*Eucalyptus Globulus*) was a favourite, but now there is a great doubt whether our own Blue Gum or Red Gum are not superior. The Tasmanian Blue Gum will certainly not grow in contact with salt or limestone, neither does it seem to bear the hot winds with the same impunity as our own species, and is more subject to the caterpillar. This Gum Tree is known by its young leaves being of a glaucous, that is of a bluish-green color, and the young stem being square.

The Blue and Red Gums of this colony are indicative of strong stiff soil, while the Peppermint Gum grows as invariably upon sand. How far these circumstances may be reversed with impunity, experience has not shewn. The soil of Adelaide is for the most part strong loam, or else has limestone a little below the surface. Both these agree well with the Blue and Red Gum, and as these are of rapid growth, noble and umbrageous, trees easy to procure, and suitable to the climate, they are to be preferred to all others.

(Signed)

G. W. FRANCIS.

Adelaide, 24th July, 1861.

DWARF FRENCH BEANS.—How to grow them to advantage.—On the look out for novelty, a few days since, I strolled into the seed warehouse of Mr. W. Nicholls, Bridge-street, Ballarat, and amidst a fine collection of good and genuine kitchen garden seeds I observed a bag of French Beans, mixed, of various kinds. As every other bag of Peas and Beans was so perfect and clean, scarcely a stray pulse to be found in their respective sorts, I was curious enough to enquire as to the cause of the bag of mixtures, and I learned that by sowing a variety of the pulse, instead of, as usual, planting only one kind, a long succession of crops was obtainable from one bed or row, some sorts being early the others late. I should also consider that as some may be harder than the others, those coming strong at the commencement of the season would protect the more tender sorts. The family is numerous. A good assortment comprises Yellow Standard, Chilian, Negro, Painted Lady, Johnson's Wonderful, Pale Dun, Red Speckled, Robin's Egg, and Dwarf Dun, which may be sown together, and found productive and successive.—*VELOCIPEDE*.

ENTIRE HORSES.

The sixth annual show of Entire Horses took place on the 3rd instant, at McEaw's horse bazaar, Melbourne. The number of animals for inspection was not equal to that of last season; and in the blood stock especially the show was inferior, taken as a whole, to that of 1860, although amongst the imported sires exhibited were Hermet by Bay Middleton, Mathematician by Emilius, and Kelpie by Weatherbit. The draught stock shown included some very fine animals, of which the most noticeable were the well-known Prince Charlie, belonging to Messrs. Mackintosh; Ben Lomond, belonging to Mr. Brodie, of Deep Creek; Blackleg, a very handsomely proportioned short-legged sire, of great power, imported during the last twelve months, for Messrs. Nelson & Thompson, of Gisborne; and Ben Liddle, belonging to Mr. McDougall. Amongst the colonial draught sires, the only one that calls for special remark was Mr. Chrystal's Nugget; and the colonial thoroughbreds deserve no mention as first-class stock. After the show, a number of the sires were offered to public competition, but the market for good sires appeared to be affected by the prevailing depression.

HOLLOWAY'S OINTMENT AND PILLS an antidote for Rheumatism.—Edward Symons, of Droitwich, in the county of Worcester, from exposure to wet or cold in the pursuit of his calling, had a severe attack of Rheumatism, and, from a hale, hearty man, he became almost crippled, and unable to walk without difficulty; when providentially his eye rested on one of the wondrous cures effected by Holloway's Ointment and Pills. He commenced using both, and within three months, from a state of great suffering, he was again restored to health and strength.

The next number of the "Gazette" will be published on the 5th of October.

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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 11.

OCTOBER 5, 1861.

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FARMING OPERATIONS FOR OCTOBER.

Although the planting of Potatoes is generally limited to the end of August and to September, it is by no means unfrequent to obtain excellent crops of this root from plants set during the present month, and as the weather lately has been tolerably showery, and the land is generally in good condition, it would be advisable to continue planting them. Great care must be taken in the selection of the seed potatoes; and if it can be possibly avoided, no farmer should plant the produce of his own farm. Any exchange will be better than none at all. A strict search must be made constantly among the crops over ground to see that they are not ravaged by the wire worms and slugs. It is not by any means a good plan to set the seed potatoes on fresh dung, and it is equally unsafe to set the smallest Potatoes; the seed should be of good size, and cut with an eye to each set.

During the whole of the month, the various root crops, such as Mangold, Beet, Carrots, and Parsnips may be advantageously sown for winter use. The Mangolds and Beet should be sown on well raised drills, two feet apart, leaving the plants of the former eighteen inches, and those of the latter fifteen inches apart. They should be sown on rich, well-wrought land, and great attention should be paid to the selection of the seed.

The different varieties of the Sugar Canes and Millet may also be sown this month on good strong well worked ground. A northern aspect suits these plants best, although they will thrive on any good land.

Lucerne may be sown during the whole of this month. Well dug low-lying land should be selected. The Lucerne crop already up, as well as the Clover and Sainfoin, should have their top-dressings now. Where the work of the farm will admit of it, new land should be at once broken up with the plough, and allowed

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Vine Culture!!

MR. BATSON'S Essay on "VINE CULTURE," in the August number of the "Gazette." Price, 6d.

Port Phillip Farmers' Society.

ANNUAL EXHIBITION

OF
HORSES, CATTLE, SHEEP, SWINE, POULTRY, DAIRY PRODUCE, IMPLEMENTS, MACHINERY, &c., at the Show Yards, Melbourne, on

TUESDAY, WEDNESDAY & THURSDAY,

The 8th, 9th and 10th October, 1861.

Open to the Public on Wednesday and Thursday, 9th and 10th October.

Intending exhibitors can procure Prize Lists, and all particulars, by application to the Secretary, at the Office of the Society, 48, Bourke-street west, Melbourne.

ARTHUR J. C. SKILLING,
Secretary.

FLOWER SHOW! FLOWER SHOW!

OF THE

Horticultural Improvement Association,
AT THE

MECHANICS' INSTITUTE, on Thursday, the 10th of October, 1861.

Open from 2 to 6, and from 7 to 10 o'clock.

ADMISSION, ONE SHILLING.

Band of the Theatre Royal in attendance.

Horticultural Improvement Association.

MONTHLY MEETING at the MECHANICS' INSTITUTE, on WEDNESDAY, the 16th October, at 7 o'clock p.m.

Discussion on Mr. Henry Adcock's paper on "Budding."

Mr. T. Adcock will read a paper on the "Cultivation of the Dahlia."

SAMUEL HANNAFORD,
Honorary Secretary.

Money to Lend.

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HAS £4000 to Lend, in sums of £200, on approved securities.

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to lie through the summer, exposed to the full action of the weather and of the sun. It should be ploughed roughly, and the furrows ought to be left lying at angles of 45 degrees, so that the air may get through them well. Do not harrow down after ploughing. Continue the weeding of all the root crops, and where the roller has not been applied to the late cereals, give it to them at once.

GARDENING OPERATIONS.

The weather has been so extremely favourable, and the ground is so moist, that Potatoes may still be planted on any spare vacant spot; but the earlier varieties only should be put in; this is a good way to get late seed. Hoe and earth up Potatoes. We find that earthing up, somewhat retards the production of tubers, and in our very earliest crops we do not earth up, but where earliness is no object, earthing up or drawing the soil to the roots with a hoe, is decidedly advantageous. Just before this is done, if the crop has had no manure, a little guano sprinkled between the rows and hoed in, will vastly improve the crop. Sow succession crops of Peas, deeper now than would have been necessary a month since. Stir the soil amongst those growing, and stake, or use some means, such as stretching string attached to stakes, along the rows of tall growing varieties. The taller growing sorts are generally the greatest producers and the best flavoured peas, but the want of good pea stakes is a sad drawback to their growth in this country. We wish some one would invent an useful cheap pea-hurdle. Sow French Beans in rows eighteen inches to two feet apart, and put the seed in about three inches apart, in rows, every other one to be pulled out if the seed grows. Thin Carrots to six inches apart, Parsnips to nine inches, and Onions so that they have six inches all round them. Keep the hoe going amongst these crops, not merely for the purpose of destroying weeds, but for encouraging the growth of the crop.

Sow Lettuce on rich soil in rows where they are to remain. They do not transplant well in hot weather. Sow round Spinach. The New Zealand Spinach is a useful vegetable for this climate. Chinese Cabbage is also useful, sow in October, if sown too early it soon runs to seed. Plant out Cabbage and Cauliflower on well manured soil. Sow Radish. Sow Mustard and Cress. Water Aspa-

ragus beds, being cut from, with guano water. —a handful of the best guano to the gallon of water. This would be too strong for many things, but not for Asparagus. Do not cut too long from very young beds, and in old beds cut all the heads for a time, or they will cease to throw up young shoots. When it is observed that the shoots come up weakly leave off cutting. Clear away the blanching material from Seakale, and let the plants regain strength by exposure to the air. Water Rhubarb with manure water, and remove the heads of seed as they appear. Sow and plant out Melons, Cucumbers, Vegetable Marrows, and Pumpkins. These all like plenty of manure for the roots to ramble in. Plant and sow Tomatoes. Sow Capsicums in seed pans to be planted out by and by.

Flower Garden.—Carefully mark all bulbs going out of bloom, and when the leaves of Anemones, Ranunculus, Ixias, Tulips, and such like things, have fairly ripened, and are dead, the roots may be taken up. It is a good plan to have some Verbenas, Calceolarias, the shrubby sorts, Petunias, and such like things in pots to plant out in the beds when the bulbs are done flowering. China Asters, French Marigolds, and Stocks also come in well for this. Annuals may also be sown the whole year round, and if the soil be pretty good, and kept moist, it is astonishing the mass of flowers that may be thus kept ever expanding their beauties. Where Roses are throwing up too many branches a few may be picked out, and where the soil is poor, Roses may have manure water. Plant out Dahlias, we like to see them in groups or clusters, and they do best in a place not too much exposed to hot winds. They like well rotted manure in abundance. Balsams raised in pots may now be planted out, and so may coxcombs.

Keep all edges neat, and the walks clean.

FALLOWS.

THE great advantage to be derived from the regular fallowing of arable land is a fact now so well proved, that it is surprising it is not more generally adopted. From time immemorial we are told the benefits to be derived from fallowing land were understood and appreciated by the husbandmen of the times; but from the period at which every seventh year was that set apart for resting the land, down to the present day, fallowing has changed its character, and like everything else, has undergone much improvement. Hosts of the most intelligent and experienced agriculturists have devoted their attention to it, and at great trouble and expense to themselves have demonstrated certain facts in connection with fallows, that those who succeed them may profit by.

The great advantages of fallowing are these: It mellows and dries the soil;

Colac Agricultural Society.

The Colac Agricultural Society's

ANNUAL EXHIBITION

OF

CATTLE, HORSES, SHEEP, PIGS, POULTRY, AND HORTICULTURAL PRODUCE, will be held on

THURSDAY, NOVEMBER 7, 1861,

When the following Prizes will be offered for Competition: (Intending Exhibitors will please peruse carefully the Rules regarding Entries, &c., as these will be strictly enforced; and observe and specify the Class and Number under which they purpose exhibiting.)

HORSES.

- Class 1. For the best entire horse of 3 years old and above, of the draught breed, £4; for the second best of this class, £2.
2. For the best mare of 3 years old and above, of the draught breed, £4; for the second best of this class, £2.
3. For the best Colonial-bred entire colt, of the draught breed, under 3 years old, £3; for the best yearling of this class, £3.
4. For the best Colonial-bred filly, of the draught breed, under 3 years old, £3; for the best yearling of this class, £3.
5. For the best thorough-bred blood stallion of any age, £4.
6. For the best thorough-bred blood mare of any age, £4.

CATTLE.

- Class 1. For the best short-horned bull above 2 years old, £3; for the best Colonial-bred short-horned bull above 2 years old, £4; for the best Colonial-bred yearling of this class, £2.
2. For the best cow of any age or breed, above 2 years old, £3; for the best Colonial-bred of this class, £3.
3. For the best bull of any other breed, above 2 years old, £4.

SHEEP.

- Class 1. For the five best Merino rams of any age, £2.
2. For the five best Merino ewes of any age, £2.
3. For the five best Southdown rams of any age, £2.
4. For the five best Southdown ewes of any age, £2.
5. For the five best Leicester rams of any age, £2.
6. For the five best Leicester ewes of any age, £2.

SWINE.

- Class 1. For the best boar, £1 10s.
2. For the best sow, £1 10s.
3. For the best sow with litter of pigs, £1 10s.

POULTRY.

- Class 1. For the best game cock and pair of hens, 10s.
2. For the best Spanish cock and pair of hens, 10s.
3. For the best Dorking cock and pair of hens, 10s.
4. For the best Hamburgh cock and pair of hens, 10s.
5. For the best of any other breed, cock and pair of hens, 10s.
6. For the best Turkey cock and pair of hens, 10s.
7. For the best Guinea fowl cock and pair of hens, 10s.
8. For the best gander and pair of geese, 10s.
9. For the best drake and pair of ducks, 10s.
10. For the best two dozen hen eggs, 10s.
11. For the best three rabbits, buck and two does, 10s.

HORTICULTURAL AND FARM PRODUCE.

- Class 1. For the best sample of Colonial grape wine (2 bottles), the manufacture of the exhibitor, £1.
2. For the best sample of early potatoes, grown by the exhibitor, not less than 6 lbs., 10s.
3. For the best sample of spring onions, grown by the exhibitor, 10s.
4. For the best sample of turnips, grown by the exhibitor, not less than 3 bunches, 10s.
5. For the best sample of carrots, grown by the exhibitor, not less than 3 bunches, 10s.
6. For the best sample of parsnips, grown by the exhibitor, not less than 3 bunches, 10s.
7. For the best 6 cabbages, grown by the exhibitor, 10s.
8. For the best 6 cauliflowers, grown by the exhibitor, 10s.
9. For the best peck of green peas, grown by the exhibitor, 10s.
10. For the best peck of broad beans, grown by the exhibitor, 10s.
11. For the best collection of garden vegetables, &c., grown by the exhibitor, £1.
12. For the best bouquet of flowers, 10s.
13. For the best 4 lbs. fresh butter, 10s.
14. For the best sample of potted butter, not less than 10 lbs., 10s.
15. For the best 2 cheeses, Colonial, 10s.
16. For the best ham, 10s.
17. For the best flitch of bacon, 10s.

REGULATIONS.

1. All exhibits must be *bona fide* the property of the exhibitor, and must have been in his possession for at least one month immediately preceding the Exhibition. Any infringement of this rule will disqualify from taking a prize.

it enables us to bury and rot, and dissolve vast quantities of weeds and their roots, that are thus converted into food for the future legitimate crops; it affords opportunities for the farmer making a thorough preparation of his land, and of inspecting and repairing his drains; it enables him to thoroughly cleanse and manure his land before commencing the next rotation of crops; and it destroys an immense number of insect pests and their eggs. For many, many years the greater portion of the agriculturists of Europe devoted a whole year to the cultivation of land, without taking a crop from it; this was their system of fallowing, to revive the partially exhausted fertility of the soil, and was performed at irregular intervals, according to the whim of the farmer. But from the long period that intervened between one fallow and the next, it is evident the land must have benefited much by the working it got, even with the rude implements of former days; and some good authorities have not hesitated to say, they believe that if a field were ploughed to a good depth, and fallowed for one year, it would produce excellent crops for ten or fifteen successive years without being supplied with any further stimulants.

But the fallowing of land must not consist, as too many suppose, in omitting to grow a crop for a year, and letting it lie idle. In such case the farmer is idle, not his land. It is allowed while lying idle, as he terms it, to exhaust itself still more by supplying, in a weak state, food to plants and weeds, that will abstract the few most essential elements of fertility that may be left in it. To keep the land idle, the farmer must be industrious: he must plough, harrow, roll, and scarify it repeatedly; four ploughings, and these tolerably deep, are as few as can be expected to achieve the purpose intended, besides repeated harrowing and scarifying. In many instances at home, land is subjected to five and six ploughings, as well as to the other operations named. Stiff and clayey lands must, to ensure keeping them fertile, be subjected to periodical fallowings; light lands do not derive so much benefit from the process, and generally require the addition of a great quantity of manure.

When one looks round the colonial farms, and sees the immense tracts of strong lands that are being worked so unscientifically, he cannot help regretting that so loose and impoverishing a system of husbandry should prevail in a country so admirably adapted by nature for the very highest system of agriculture. The grand system of all fallowing is simply this, that as the land feeds the plants growing upon it, and the atmosphere feeds the land, the former cannot thrive unless the latter is worked in such a way that it will provide itself with the nourishment it is called upon to supply to the vegetable kingdom.

Fallowing may be divided into three kinds—bare, naked, or summer fallow, bastard fallow, and green-crop fallow. The first should be commenced in the month of April or May, when the stubble furrow should be laid. Much will depend on the nature of the soil, and the weather, at the time of ploughing, whether the harrows should be applied afterwards or not; for it will be better not to pulverize the land too finely, as the more all the surfaces of the clods are exposed to the free action of the sun, wind, and frost, the more advantages the soil will reap from the exposure. The operation of ploughing should commence by breaking down the old lands; in a month after this the furrows should be turned back to their original position; in another month the ground should be cross-ploughed, taking care to go deep enough to turn up and expose all the roots of the weeds &c., and finally—if it is intended to plough but four times—laying the lands up as they may be desired for the next season's crop. It will be necessary with four ploughings to use the grubber or scarifier between them; and if the weeds are plentiful and troublesome, this must not be neglected; but, by all means, if it be possible, another, or other two ploughings should be given; the last being in the end of December or January. One such fallow as this will be sufficient to keep the ground clear and in heart with any rotation of crop adopted, up to eight; but as that is not likely to be adopted in this colony, and as the six course will be found the best, the land will consequently be improved or renewed every

2. All entries must be made in writing, and signed by or for the exhibitor, on or before Monday, 4th November, at the office of the Secretary, when a Ticket will be given stating the Class in which the entry is made, and the number of the entry,—which Ticket the persons in charge of the articles for exhibition must bring with them, and produce at the gate; and no exhibit will be admitted into the Society's grounds unless such ticket be produced.
 3. The Exhibition is open to all; but exhibitors not members, must pay an entrance fee of £1, which will also constitute membership for the current year.
 4. No exhibit of Horticultural Produce shall occupy more than twelve superficial feet of space; any exhibit more or less than this will be disqualified.
 5. Exhibitors, if called upon by the Committee, must give every information in their power relative to their respective exhibits; and should such information not be satisfactory in the opinion of the Committee, any prize awarded may be withheld.
 6. Each exhibitor must place his exhibit in the proper class when directed, with the ticket received from the Secretary stating the class and the number in the class.
 7. No exhibit will be received into the yards on any account whatsoever after Eight o'clock a.m. on the day of exhibition.
 8. All persons intending to exhibit extra produce must intimate to the Secretary and describe the same, at least one clear day preceding the Show.
 9. No member can exhibit unless his subscription be paid up for the current year.
 10. No exhibitor will be allowed to remain in charge of exhibits during the adjudication.
 11. Any infringement of these rules will disqualify the exhibitor from taking a prize.
 12. The Judges may award a second prize instead of a first one, or may withhold a prize altogether when there is only one exhibit, or when the exhibits are not considered worthy.
 13. No Judge shall be an exhibitor in the department in which he is a Judge.
 14. The decision of the Judges shall be final, and without appeal. Any protest against or complaint of irregularity in exhibition must be lodged with the Secretary within one hour after the opening of the exhibition for the consideration of the Judges.
 15. No exhibit shall be removed from the Exhibition before 5 o'clock p.m., without written permission from the Secretary.
 16. The Society will not be responsible for the exhibits.
 17. Exhibitors may have any book or article of plate of the same value as the prize, by giving notice to the Secretary within three days after the Exhibition.
 18. Members are entitled to two admission tickets, which can be obtained from the Secretary.
 19. All exhibitors must conform to the rules and regulations, which will be strictly enforced by the Committee.
- Prize Lists and any other information, may be obtained at the office of the Secretary.

JOSEPH S. MISKIN,

Colac, October 5, 1861.

Secretary.

DAHLIAS. DAHLIAS.



Kardinia Nursery, Geelong.

Established 1851.

DESIRE to inform the public, that his choice Collection of DAHLIAS, comprising upwards of one hundred and twenty varieties, will shortly be ready to send out; a descriptive list of which can be seen at Mr. Clarkson's, Seedsman. Also, the Sweet Potatoe, red and white. This delicious vegetable succeeds well in this climate, is easily cultivated, and produced an abundant crop last season in my Nursery. For price, mode of culture, &c., apply as above, or to the Agents:—

Geelong—Mr. Clarkson, 8, Ryrie-street west.

Creswick—Mr James Rogers, Auctioneer.

Beechworth—Mr. V. Rochlitz.

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

sixth year by these bare fallows; but they ought scarcely to be attempted, except in such rotations, as roots form part of the course, for this reason, that the cereals only extract the silica from the soil, while its alkalies are absorbed by the root crops, and thus the land is not too much impoverished by one or the other.

The second or bastard fallow is obtained by turning up the land after a spring crop has been cut, and preparing it for the crop that is to follow; and the third or Green Fallow is the result of working the land during summer and autumn, that has been planted with the roots.

Lands that are fallowed regularly, must as we have said, be occasionally laid down with green or root crops, on the rotation principle. The most approved rotations are, the five and six course,—the former being Bare fallow, Wheat, Oats or Barley, Clover and Ryegrass, Green crop; and the latter, Bare fallow, Wheat, Clover and Ryegrass, Wheat, Green crop, Oats or Barley. On the Carse of Gowrie, in Scotland, the following are the rotations. On the heavy clays, the seven course shift,—Bare fallow, Wheat, Beans, Wheat, Barley, Clover and Ryegrass, and Oats; and on the loamy clays, the eight course shift, Bare fallow, Wheat, Beans, Wheat, Turnips, Barley, Clover, and Oats. The best course to be adopted for this colony will be the following,—Bare fallow, Wheat, Mangolds or Canes, Wheat, Oats, or Barley, and Clover or Grasses. A seven course shift may be obtained by introducing a Turnip course: One of the greatest advantages of these Green Crop shifts, is the immensely increased supply of manure made on the farms,—a matter of the very greatest importance to every agriculturist.

OATS GIVEN TO HORSES BEFORE OR AFTER DRINKING.—Thus the same quantity of oats given to a horse produces different effects according to the time they are administered. I have made the experiments on my own horses, and have always observed there is in the dung a quantity of oats not digested, when I purposely gave them water after a feed of oats. There is decidedly, then, a great advantage in giving horses water before corn. There is another bad habit, I observe, that of giving corn and hay on their return to the stable after hard work. Being very hungry they devour it eagerly, and do not masticate; the consequence is, it is not so well digested and not nearly so nutritious. When a horse returns from work, perspiring and out of breath, it should be allowed to rest for a time, then give a little hay half an hour afterwards; water, and then oats. By this plan water may be given without risk of cold as the oats act as a stimulant.—*Journal d'Agriculture Progressive.*

SEASONABLE HINTS.

The careful fruit grower who looks more to high quality in his fruit than to great quantity, will find ample opportunity during the next six weeks of displaying his skill in the judicious thinning of fruit set on Apricots, Peaches, &c.; and the carefully arranging the growth of the young shoots by disbudding and finger and thumb pruning. It is perfectly evident that a large amount of winter pruning, which is certainly not the best kind of pruning, may be avoided, if the trees be carefully gone over now and the young shoots either removed altogether, where necessary, that is where they are sure to crowd and cross each other, or where they are showing a tendency to run away into a rapid watery growth, having their points pinched out. This holds good with bush fruits as well as trees. How often do we not see Gooseberry bushes crowded with young wood about the heart and stem, which ought all to be removed with the finger and thumb, and the bushes be thereby improved and the fruit enhanced in quality. There is scarcely anything the amateur is more frightened of with regard to his trees than thinning or pruning; but if they will take our advice and thin well, they will thank us for it in the end. Now, suppose we have an Apricot tree covered with young fruit, here four, there three, and so on, we would take off such a quantity that no one fruit would be within six inches of the other all over the tree. Of course this is where the tree is well covered as most Apricots are this season. And we would not let young trees planted only last year bear; one or two year olds, but a very few. We have in previous numbers described the proper methods of pruning and thinning, so that we need not more enlarge upon them here than to call earnest attention to them.

Melons.—These like a good soil, and they may now be planted out or sown at once; they should be allowed to have a rather rich part of the garden to grow in. We take out a trench two feet deep and two feet wide, banking the earth up in a sloping direction on one side only; another trench may be taken out six feet from this, and so on. We then put in fifteen or eighteen inches of well rotted manure, but if stable manure be not at hand, decayed vegetables from rubbish heap, where soap suds and waste water from the house have been deposited for some time, is used instead of stable manure. Or if cow-dung can be had, nine inches of that might be used, but in that case the trench need not be so deep. We then put six inches of soil back over the manure and on this put out the plants, or sow the seeds, leaving the trench in a dishing form, so that when the vines of the plants are trained on the sloping bank and carefully pegged, there to be kept from blowing about, the water from heavy thunder showers may be conveyed to the roots, and the flavour of the fruit be less interfered with. When the Melons plants have attained to a size of three joints from the seed leaf, the point should be carefully picked out to cause the plant to break into branches, three of these will come from the joints and should be trained on the slope about a foot apart. We generally put the plants in about three feet apart in the rows. As soon as the main branches have reached the edge of the

WILLIAM CLARKSON,

Seedsman and Florist,

(Agent for Mr. T. Adcock, Kardinia Nursery.)

KITCHEN GARDEN SEEDS, of new and approved sorts; also, a few novelties, all of a vigorous growth, (being tested.)

FLOWER SEEDS, comprising nearly 400 varieties, and many novelties.

HEDGE AND TREE SEEDS, see Catalogue.

LUCERNES, CLOVERS, GRASSES, MANGOLDS, &c., of every description, tested and proved previous to sale.

Vine Pruning Shears (varieties), Verge and Hedge Shears, and other sorts, Bass Mats, Cucumbers, Glasses, Knives, Garden Reels and Lines, Tallies, Botanical Specimen Boxes, and Implements of every description for the Garden and Greenhouse or Conservatory. For a complete list see Catalogue.

Experienced Gardeners Recommended.

New American and Chinese Seeds.

THE Undersigned have just received from America a consignment of the following New varieties of Seeds, which are now on Sale:—

IMPROVED NEW YORK PURPLE EGG PLANT, and Long Purple ditto.

Several CHOICE KINDS of CUCUMBERS, SQUASHES and PUMPKINS.

ROCK or MUSK MELONS, including the Nutmeg, Pine Apple, Yellow Canteloupe, Early Jenny Lind, Skillman's Netted and Large Persian ditto.

DWARF OKRA and BENE.

NEW STRAWBERRY TOMATO, and eight other varieties.

WATER MELONS—Carolina, Ice Cream, Apple Seeded and Mountain Sprout.

TOBACCO—Connecticut Seed Leaf, Kentucky, Maryland, Havannah and Florida.

Also, from China, the celebrated **CHINESE CARPET GRASS**, with four other choice and fine sorts for Lawns, Cricket Grounds, &c.

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Wholesale and Retail Seedsmen, &c.,
118, SWANSTON STREET, MELBOURNE.

Agents for the Sale of Rooted Vines and Cuttings for the Proprietors of the famed Yering Vineyard.

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NURSEYMEN, SEED GROWERS, FLORISTS, &c. beg to intimate that their Priced Catalogues of Trees, Shrubs, Roses, Dahlias, Vegetable and Flower Seeds, &c., is now ready, and may be had on application as above, or at Shed A., No. 26, EASTERN MARKET, MELBOURNE.

Prices more in accordance with the times.

Wholesale and Retail.

GRASS SEEDS,

FOR IMPROVING PASTURES AND FOR LAYING
DOWN LAND ANEW.

HANDASYDE, M'MILLAN & CO.,

Agricultural Seedsman,

DEVOTE every care to orders for Grass Seeds. They supply the kinds assorted for various purposes, soils, and localities. The sorts are put up separately when required, or mixed ready for Sowing—the "light" seeds by themselves, and the "heavy" seeds in another parcel for the convenience of the Sower.

Detailed Lists and other information on application.
A Supplementary Catalogue of many Agricultural Seeds not hitherto introduced, now ready.

SEED WAREHOUSE,

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WHOLESALE AND RETAIL

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62, MAIN ROAD, BALLARAT.

HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds,
Fruit, Forest, and Ornamental Trees,
Shrubs and Pot Plants, a good variety.

slope they should be stopped, and then they will throw out laterals on which the fruit will be produced. When the fruit blooms appear they should be impregnated with the pollen of the male or fruitless flower, and the shoot should be stopped one joint before the flower. While growing, Melons like, and must have plenty of water, and in dry weather when the fruit has set, should be watered in the evening all over the leaves. Cucumbers will do under similar treatment, and will also Vegetable Marrow and Pumpkins, but these two latter require much more space to grow in, and likewise more manure and water.

Tomatoes should be much more cultivated than they are, being useful both as a vegetable for the table and for sauce. Sow now in a seed pan for a first Crop to be planted out as soon as ready, and sow some seed at the same time out of doors on some rather rich place—where they can be trained up against a dead fence is a good place.

Vines should be looked over, and all young weak superfluous shoots should be rubbed off with the finger and thumb, leaving about four or five shoots to be tied up to the stake where the stake system of training is adopted. Those on trellises will require to be looked after in the same way, and where the plants are old the young shoot should be stopped at one joint in front of where the bunch of fruit makes its appearance. All shoots to be left should be tied in, as the high winds will sadly knock them about if not tied in. The surface soil should be kept clean and constantly stirred amongst the Vines, this adds greatly to their health, and a good state of healthy growth is prejudicial to the growth of blight or mildew. Where Vines are grown for fine table fruit there is no doubt that the trellis system of training is by far the best, and where no system has already been decided on we strongly recommend it. Some posts put down at intervals to which wire could be attached, and to which again the young shoots could be trained having plenty of room, would not be very expensive and will be found to answer well.

Potting Plants, and Soils for Pot Plants.

WE were lately shown a small Green-house where the owner had been at great pains to get together a lot of very nice plants, and with which he expected in have many an hour's pleasant enjoyment, but all his hopes had been nipped in the bud by the plants first assuming an unhealthy look, and ultimately dying gradually off. He informed us, that notwithstanding all the care he had taken to give plenty of water, the soil in the pots had become hard and sour looking, and when we saw them the soil in the pots seemed as hard as a brick bat. We turned a few of the plants out, and found, as we had expected, that there was no drainage material in the bottom of the pots, and the soil, which was a medium stiff garden soil, had been sifted. No wonder, thought we, that the plants had died. They had been drowned. We asked our friend what could have induced him to put in his plants from the small pots he had received from the Nursery, in the first place, in such large pots, and also with sifted soil and no drainage. A Gardener (?) had told him, and he had seen them sifting the soil and doing the same thing in a great garden, where, although

they don't know any better, they ought to know. Now notwithstanding the great progress that has of late years characterised the proceedings of the Gardening world, there is still much ignorance existing even on the most simple matters, and, as our friend's plants proved, Potting is one of these. All flower pots should be clean and well burnt, though not blue burnt. When placed on the hand and struck, they should ring like a good bell, and any thick, half burnt, soundless when struck, abortions of the potter's art, should not be used for potting. In selecting the pots for potting, chose the hard ringing pot then, and let it be of a size so that there would be about an inch of space for new soil all round the ball of the plant, to be shifted. This should be especially the case for plants that are to remain and grow in pots for years, being shifted from time to time. For soft wooded, quick growing plants, large pots may be used, because as the plants have only to live a year or so, they will grow rapidly and fulfil their mission, and then be cut away; but for hard-wooded, long living plants, the gradual method of getting them into large pots must be adopted. Such are Camellias, Azaleas, Epacris, Heath, &c. When the pot is chosen, a piece of broken pot, or something of the same nature should be put in to cover the hole in the bottom, care being taken that it is so put that it will be hollow on the bottom; two or three large pieces, about the same size as the first, should then be put around it, and over these again should be placed small pieces, so that in any pot there be not less than an inch of drainage; in very large pots there should be two or three inches of drainage. Then over all this again, some rough material, such as turfy loam should be put before the plant is put in.

All growers of pot plants should have several kinds of soil always in stock and kept separate, to be used so or mixed at potting time. Pot plants will never do well in a mere garden soil. We will suppose that the potting requirements of an establishment are small, and the following should be kept on hand:—Pots in nests from 3 to 18 inch, a cartload of each of turfy loam, merely about three inches from the surface of a grassy common where vegetable fibre is pretty abundant, grass, and all with it,—rather strong loam—turfy black earth from where the native heath grows freely; cowdung well rotted, and half a cartload of silver sand—not seacoast sand—with some charcoal, broken bones, and plenty of crocks or broken pots. These will be found all needful at times, and when they are being used should be merely rubbed up with the hand. Never on any account, except for the very smallest seeds, and then only for about half an inch for the surface of the pots, use the sieve or riddle, although you may see, as we did the other day, great men in their way using it. If it be decided to shift a plant it should have been watered the day before, and should not be quite half dry. The pot being prepared as we have suggested above, and the proper soil for the particular variety of plant ready; the palm of the left hand should be placed on the surface of the pot, the stem of the plant coming between the middle fingers. The pot should then be turned up and be gently tapped on the rim when the plant will come out leaving the ball lying on the hand up side down. Now examine the roots. If there be any dead roots, and sour-looking soil

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remove them, but if the roots be healthy and vigorous they need not be touched. The ball should then be turned up and placed on the top of the drainage in the new pot, and the new soil should be firmly pressed in all round the ball with the thumb, a few gentle taps being given on the bottom of the pot by raising it up and tapping it on some solid substance such as the ground or a solid potting table. The surface of the ball should be from three quarters to an inch below the level of the rim of the pot to admit of watering, and when the whole job is finished, water should be given to settle the new soil around the ball. If the old ball be very hard and full of roots it should be perforated before being potted, so that water may permeate that as well as the new soil. Many plants are lost from want of this precaution; the outside new soil seems nice and moist when the old ball may be dry and hard, and the roots perishing from want of water. Watering must be carefully attended to, and plants should never on any account be allowed to flag or drop their leaves from want of water. On the other hand plants in pots do not like to be kept sodden, hence one of the reasons for thorough drainage. By the bye, old pots should never be used a second time, until they have been well washed and allowed to dry.

These matters may seem all simple enough to some, but they will not forget that the proper method of crocking a pot is the first thing a young gardener when he gets into the pot department has to learn.

B. B.

Botanical Gardens.

GEELONG.

WHEN we remember that but some very few years since, the site of these gardens was entirely uncultivated, we can only wonder how, with such limited means at his command, and so many difficulties in the shape of situation to contend with, Mr. Bunce, the Curator, has made these grounds so really enjoyable as they now are. Botanic Gardens, in the strict sense of the word, they are not, but rather intended for the delectation of those who can and do appreciate the

"Flowers that glad
With their pure smile, the garden round."

The more scientific arrangements will be a matter for after years, and we think the Trustees have wisely determined not for the present to devote more of their funds to breaking up ground for shrubberies, contenting themselves with planting the now remaining grass lands with choice and suitable trees,—the Coniferae being a prominent feature amongst them. We look forward to the day when Mr. Bunce's Horse Chesnuts, Sycamores, Oaks and other of our forest trees are here forming a glorious shade from our fierce summer's sun, under which we or our successors may enjoy the cool breezes from the charming blue Bay, the close proximity of which is so cheering a feature in these Gardens, already they are thriving in the Nursery, where the taste displayed in planting close hedges, here and there, of the white *Spiraea filipendula*, *Antholiza*, *Clematis*, *Satvia*, *Osage Orange*, &c., is most creditable to the Curator. The Anemones and Ranunculuses are gorgeous in the extreme. We have a group of each

before us now, and some highly creditable Pansies too, which should form an interesting feature of the forthcoming Exhibition of the Horticultural Association, to which Mr. Bunce always contributes so liberally. But our object in visiting the Gardens, was principally to observe the new works which have lately been completed there; and we were first shown the compact little Forcing-house at the end of the nursery; it is a low brick-house, surrounded by iron pipes with furnace, which is lighted at night and watched by a person having it under his own especial charge, so as to maintain a proper temperature. There is something simple and inexpensive in the plan adopted by Mr. Bunce for forcing plants, and we consider it equally effective with more expensive arrangements we have seen. He has had a number of wooden cases made about a foot in depth, each with a cover of glass sliding over it, which when the evaporation proves too great can be reversed; to prevent however any excess of moisture causing the young plants to damp off, the top of each pot is covered with quartz sand. We observed here some choice seedlings, amongst which were some natives of Ceylon, *Papia or Pappooi*, a handsome tree, whose height is from thirty to forty feet, branching at the top, trunk about eighteen inches in diameter and hollow, leaves large with stalks three and a half feet long and hollow; fruit about the size of a small Rock Melon, eatable and exceedingly luscious.

Another called "Bringalle," a bushy plant, two feet high, fruit a little larger than an orange, used as a vegetable cooked.

Cavavilla, a creeper, fruit bitter, used as a tonic vegetable diet by the natives of Ceylon.

Bandakay an annual three feet in height, grows not unlike the Sunflower, pods from five to six inches long and curved, when boiled becomes exceedingly mucilaginous, and is therefore used in soups.

These and others were contributed by Mr. Wilkins, Chemist, of Malop-street, Geelong. Creepers and Ferns have also a place in this forcing-house, so as to combine beauty with use. From this house the young plants are gradually inured to temperature which will eventually admit of their being planted out; thus, from the forcing-house to a tan bed, from this to a calico frame, and subsequently to a shady arbour also recently constructed, which finally hardens them for exposure.

We are pleased to observe that at the south-west corner of the Gardens, Mr. Bunce is availing himself of prison labour, in order to form an aquarium for aquatic plants and suitable live stock, the area of the water surface will be over an acre, and average depth nearly three feet.

Walking round the grounds, we observe that the carriage drives have been extended to three and a half miles, and at some future day this may be increased at least two miles. Along these drives, Mountain Ash, Poplars, Sycamores, Oaks, Elms, and many other English trees have already been laid down, and we trust, during the ensuing summer evenings, to find that the attractions of the Gardens and a good band, will induce our townfolk to seek enjoyment there for themselves and their families.

We were sorry to notice the leaves of some promising young Tea plants destroyed, evidently by a *wasp*; small portions of them

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being cut clean away, and it is also a matter of serious regret that the blue gums (not that we admire them) have been almost entirely killed by some caterpillars; the *Acacias* in the Botanic Gardens of Melbourne were similarly affected a few years since, but subsequently recovered. In conclusion we would remind our friends that comfortable seats and summer houses have been erected, around which shady creepers are being planted, and we earnestly recommend our readers whether horticulturally inclined, or merely seeking for fresh air, to pay Mr. Bunce's grounds a long visit.

SANDHURST.

Some two or three years since, a piece of land about eighteen or twenty acres in extent, and situated at the lower portion of the White Hills Hamlet, was applied for to the Government, by the Municipal Council, for the purpose of being converted into a Botanical Garden, in imitation of the one in Melbourne; the ground was accordingly granted by the Government, fenced in and proclaimed a "Reserve." Nothing more was, however, heard of it for a long time, and it was thought that the land was to be allowed to lapse into its primitive state of wild bush; that it was to be retained as a sort of camping or "happy ground" for predatory and excursive goats—or what seemed more likely to be its inevitable fate, that it would be deluged by a sea of sludge, against the attacks of which, in this particular locality, no fencing could protect it. Last season, however, we were agreeably surprised to find that the Municipal Council had again determined in doing something to carry out the original intention of their predecessors, and a sub-Committee was appointed, a gardener, Mr. Robson engaged, and during the last six months he has been industriously employed in the cultivation of the gardens. We were induced a short time since to pay them a visit, and although the gardens are not yet in that state of perfection that they would stand comparison with the similarly named establishment in Melbourne, we were struck with the very great improvement that a few short months had made. The enclosed space for the gardens covers about 17 acres, the greater portion of which is already laid out with flower beds, and plots of ground, containing native and imported flowers and shrubs. A number of the latter have been obtained from Dr. Mueller, the superintendent of the Melbourne Botanic Gardens. At this early period of the season but few of the flowers are in bloom, but a month or two will give the gardens a different appearance.

A portion of the gardens has been laid out—partly excavated, and partly naturally formed—for a lake, the supply of water to which is obtained by surface drainage; the want of the necessary funds for this and other improvements has, however, delayed its completion. Here the Committee intend introducing different species of water fowl, and stocking it with fish. It is also contemplated erecting a large conservatory on the esplanade—as a large space in the centre of the garden is named—and making other improvements. To those who remember the Melbourne Botanic Garden, shortly after it was first formed, and will compare it then with its present appearance, and will look what a few months, and a

hundred hands or so have done in reclaiming a barren waste, it will be readily believed that in another season or so we shall have gardens that will bear credit to the place. Even in their present half cultivated state, they form very recreative and pleasant looking grounds for the Sandhurstians who go out "a pleasuring" on the Sunday, and as it will probably be some time before the Camp Reserve is turned into a park—whether it be Rosalind, or known by any other equally sweet sounding name—we hope, now that the Council have taken the cultivation and adornment of the Botanic Gardens in hand, they will not "turn back from the plough" ere the good work is finished.—*Weekly Advertiser.*

ON BUDDING.

Read at the Horticultural Improvement Society, by Mr. HENRY ADCOCK, Albion Nursery, Geelong.

In writing a paper with a view to the discussion of that most valuable method of working Fruit Trees by the simple process of Budding, I follow no man's opinion, experience and observation only being my guide. The motto of our Society is *improvement*; we should not, therefore, tread in the steps of our fathers, but ask our friends to bring their experience and observation to the discussion of this subject at our next meeting, when it is more than probable that some of us will be benefitted by it.

That Budding has most decided advantages over Grafting, we think all practical men will readily acknowledge. The following are not the only reasons why I prefer the former to the latter.

1st. Budding is performed in at least one half the time occupied in Grafting.

2nd. Complete success may be expected in Budding, but with Grafting there may be many failures.

3rd. If any Buds perish in two or three weeks, the stocks can be worked over again, above or below the place where the first bud was inserted, or on the opposite side of the stock; in the case of a failure in Grafting the stocks are destroyed.

I know of only one Stock in common use in the nursery, where the Graft can be said to have the advantage over the Bud, viz. —the Cherry, of which I shall write more particularly in due time. I think it of great importance to ensure success in Budding, that the soil in which the stocks are planted should be light and free, thus securing a fine fibrous root to supply the stock with its proper quantum of sap, and to feed and incorporate the Bud with the Stock.

As to the Stocks to be planted, I would throw out as worthless those of two or three summers' growth, and on no account would I plant Stocks of one summer's wood that was not perfectly ripe. The stirring of the soil two or three times between planting and Budding will greatly facilitate the operation. A living Bud cannot be properly inserted in a dry Stock.

We now come to the question, when and how shall we Bud?

1st. When shall we Bud?

This is an important matter, as the time for one kind of fruit may be too early or too late for another kind. I always begin with Apri-

cots late in November or early in December, and succeed with ninety-nine out of every hundred. If I grafted Apri-cots I should not expect more than a third or fourth of them to grow, owing to the hardness of the scions. Plums and Damsons are the next things to be attended to in Budding; for this reason that the Plum stock, sooner than other stocks, looses its current of sap, often shedding its leaves in February. From the experience I have had, Christmas is too late for Plums to do well.

This is not the case with the Apple, Pear, Peach and Cherry. January may be taken as the best month for the Peach, Nectarine and Almond; if these fruits are worked in December they are liable to an overflow of sap, which sometimes covers the bud with Gum, and to say the least of it, it is objectionable. The Apple and Pear are easily budded in December, January, or February, as is most convenient to the operator.

We now come to a Stock the most difficult of all, with which we try to unite a living Bud—the Cherry. As a rule perhaps the middle or end of February is the best time to bud this Stock, just as the full flow of sap is going down, and the bark with some slight difficulty separates from the stock, that is the time to insert the bud; if, however, a heavy fall of rain follow, the Cherry Buds may be swamped by too much sap, and I am of opinion that a high wind, either hot or cold, will prove equally fatal to the Cherry, as this valuable fruit is somewhat critical to bud. I have generally preferred Grafting, which answers admirably.

In taking our leave of the question,—when shall we Bud, we have only to refer to an old opinion, still entertained by many, that dull weather or the evening is the best time for Budding. We readily admit that the operation may be successfully performed in cool weather, but our experience is in favour of the sun in its full strength. I have Budded thousands of Stocks when the ground was almost too hot to stand upon, with all the success that could be desired. Some one may ask why do you Bud in such hot weather? I answer, as the sun is one great source of life to our world, therefore the more heat the more sap, and consequently the more food for the bud. But under no circumstances would I Bud in a hot wind.

2nd. How shall we Bud?

It is well known to most of our friends present, that before Budding commences the Stocks must be visited with a pruning knife, and cleared of small shoots all round the stock, where the Bud is to be inserted. Having thus prepared our wild and unprofitable plant, I repair to the tree whose fruit I have seen, or whose quality or sort is known by the wood, and select the shoots for Budding. This being done, the leaves are at once cut off to prevent their exhausting the sap, leaving on the shoots the stalks of the leaves to facilitate the operation. One scion or shoot is now in hand, being used up, the others are laid in the shade, and that part of the stock is taken that is the brightest and most free from knots, and cut quite through the bark in an upright direction, about one inch and a quarter in length; the high end of this incision is instantly followed by another, this last being a cross cut, equally sharp and clean; the sides of the bark thus cut is next touched with the point of the knife,

preparatory to the sliding down of the thin handle of the knife, thus making on both sides of the upright cut a complete separation of the bark from the stock.

I certainly prefer working every fruit as near as possible on its own root. I mention this, because some people think the kind of stock is of no consequence. For instance, a gentleman told me that he had been grafting Apri-cots on the Cherry. But to return. Care must now be taken that the buds cut out are all ripe, commencing at the bottom,—as a rule the eyes may be used about half way up the shoot. The eye or bud is cut out of the shoot with a little wood, if the knife sinks to the pith the difficulty of separating the wood from the bark will immediately appear, and will in all probability destroy the Bud. In taking the wood out, the bud is held in the left hand, while the right pulls out the wood, commencing at the top of the bud. It is desirable that the bud should be of the same length as the incision, if shorter push it to the bottom, and it will be more likely to live; if longer cut off the top end to fit the upright cut. If the eye of the Bud comes out with the wood, it is thrown away and another taken. After the insertion of the Bud, the bark of the stock is closed with the finger and thumb of one hand, while the other at the top end commences closely binding the two together, leaving the eye a peep of day.

As to the material for binding, I have used many things, but I prefer the Budding worsted; but no advantage can be obtained by damping the material, the moisture must be in the stock, or all the artificial means employed will in three weeks reveal a withered bud, and a wounded stock.

In heading down the Stock, I would allow the Bud to remain inactive, till the return of Spring. I am satisfied there is nothing to gain by starting the bud three weeks after its insertion, the Rose excepted. After cutting of the stock, I would defer disbudbing for a time, the wild shoots will feed the bud by drawing up the sap. The next and last thing to be attended to in Budding, is staking and tying the wood produced by the eye of the bud to prevent its being blown out by the wind.

Acclimatisation.

The Cochineal Insect (Coccus coccinellifera.)

The dried insect, known in commerce as COCHINEAL (from the Spanish *Cochinilla*, "a Wood-louse,") is of so great value in dyeing, painting, and pharmacy, that its introduction and cultivation has excited the attention of all the European Governments possessed of territory in warm tropical latitudes, where the plants on which it feeds can grow and thrive. The genus *Coccus*, to which it belongs, though very different in form, has many of the very singular habits of *Aphides*, and several of the species like these also, are most extensively destructive to growing plants. For example, the wall grape vines near London and in the South of England, are much infested with a small species of foreign origin, which is likewise very troublesome in the vineyards on the European Continent. A much larger species is not uncommon in the Australian colonies, on some of the gum trees, particularly on the Tasmanian Blue Gum, on which it may frequently be

met with around Melbourne and Geelong, where this tree is often planted on account of its rapid growth. Whether it is this species (*Coccus Eucalypti*) I have not ascertained, but a large one not unlike it, has, within the last two years, very extensively injured the growth of the luxuriant foliage of the tree commonly but erroneously called the Cape Wattle (*Acacia Lophantha*), introduced here from the Swan River. Last year, whole belts of this beautiful tree were rendered nearly leafless by this insect preying on the juices of the young shoots, but this present year the number seems to be very greatly diminished, and the trees are fast recovering their leaves, a circumstance indeed frequently observed in insect depredations, rapid increase being followed by as rapid decrease, while nostrums and receipts get all the credit for what is due to providential wisdom.

The insects of the *Coccus* genus closely resemble the Aphides in their singular mode of reproduction, and in their consequent remarkable increase. It has been ascertained by M.M. Bonnet, Reaumur and Costa, beyond the possibility of doubt, that late in autumn, before winter sets in, the female insects which then have four wings, deposit their eggs on the appropriate plants to be hatched the ensuing spring. Those eggs, it would appear, are all female ones, at least no males appear till autumn. The females hatched from the eggs in spring, do not, like their mothers, lay eggs, but are viviparous, bringing forth their young alive, which young are likewise all females, and produce living young females without pairing with a male. This reproduction goes on during the whole summer,—a single mother bringing forth from ten to twenty a day for four or five days, when she dies, as all species of insects do soon after laying or parturition. In the case of the Aphides, M. Latreille, a high authority, reckons that one mother must thus be the progenitrix of 300,000,000,000,000 in a single summer, and Dr. Richardson makes the number twenty-five times as much. It is most remarkable that those viviparous mothers are all *without wings*, while only the oviparous mothers are winged. The males are always winged like the male ants.

From the recent researches of Signor Costa of Naples (*Atti Scienz. Natur. Napol.*) it would appear, that the insect described by Mr. Reaumur, as the male of the *Coccus*, is not so, but a parasite Ichneumon, which, in the larva state, eats into the body of the female *Coccus*. M. Emile Blanchard, however, does not seem quite satisfied on this point, which he thinks requires farther investigation. (*Dictionnaire d'Hist. Naturelle.*) I am inclined to believe, that Costa is right; for Reaumur's figures agree with the characters of the Ichneumonidæ.

Now and again lately, newspaper correspondents have proposed to introduce the cochineal insect into this Colony, and one writer (ill informed) tells us naively, that we have it already; referring to the species which feeds on the gum tree, but this we need not say, is not the cochineal species. At first sight it seems more rational to procure the genuine species from Mexico, or elsewhere, along with the genuine sort of Cactus on which it feeds. But whether that species of Cactus might grow and thrive here, no trials, so far as I am aware, have yet been made.

We know that one species of cactus, known as the Prickly Pear, does grow here luxuriantly, and it has hence been proposed to acclimatise the Cochineal insect on that plant; the proposers being unaware, that this very experiment has already been extensively tried and failed, under more favourable circumstances as to climate than we possess. The luxuriant growth of the Prickly Pear in Jamaica, induced the importation of the insects there; but though they did not refuse to feed on the plant, the colour of the cochineal instead of a rich crimson pink, it turned out to be a dull dingy yellow. The blossom indeed of the Prickly Pear is yellow, whereas the blossom of the genuine cochineal Cactus (*Cactus coccinellifera*) is beautiful dark rose red; while the leaves also of the plant are much smaller. Till we try to grow this valuable plant, it would be folly to attempt Acclimatising the cochineal insect on the Prickly Pear.

It is by no means improbable that we might be successful in growing the cochineal Cactus in the warmer districts of Victoria, (better perhaps, at Queensland or the Swan River.) We know that the plant and the insect have been acclimatised by M. Bertholle, in the Canary Islands since 1827, and thrive well in the *Jardin d'Acclimatation* of Oratava. I dimly recollect some curious history of the difficulty of procuring the insect by the Dutch Government to introduce into Java; the Mexican authorities being feverishly jealous and rigidly strict about the insects.

J. R.

Societies.

Horticultural Improvement Society.

The Monthly meeting was held on the 18th of September, the President, Alfred Douglass, Esq., occupying the chair.

The minutes of the previous meeting having been read and confirmed, and the members then proposed (Mr. Charles Nantes and Mr. E. Stock) duly elected.

Mr. William Greenwood, of Little Malop-street, was proposed as a member of the Society.

The discussion on Mr. Batson's paper on "Vine Pruning," read at a previous meeting was resumed; Mr. Powney, Messrs. H. & T. Adcock, Mr. Hodgson, Mr. Wadleton, Mr. Milward and others taking part in it. Mr. William Roope also gave some interesting data on the expense of establishing and carrying on a Vineyard for a period of years.

Mr. Henry Adcock read a paper on "Budding," which appears elsewhere in our columns, and

Mr. Thomas Adcock promised at the next meeting to read a paper on the "Cultivation of the Dahlia," a subject in which, from his great success in growing that beautiful flower, we are sure, he will be quite at home.

Beechworth Horticultural Society.

SINCE our last issue, we are pleased to observe that a meeting has been held in the Beechworth District, for the purpose of initiating a Horticultural Society. The rules of various kindred Societies were produced, and a provisional committee formed, with the intention of calling a public meeting to consider a programme of the proposed Society, endowment of members, and election of office-bearers.

E. W. Morrah, Esq., is the Honorary Secretary *pro tem.*

Hamilton Pastoral and Agricultural Association.

The sixth show of the Society which came off a few days since, was in every way successful, and there was a decided improvement in the quality of the stock exhibited. It appeared to be the general opinion, however, that the time of the year was too late, more especially for the horse stock.

In the Horse department, Messrs. S. Macgregor, Thomas Rostock, and H. G. Eddington, were judges.

Mr. Millar's "Duncan Gray," took prize for best entire, and "Lincoln Tom," the property of Mr. Charles Hest, for best entire colt under three years. Mr. J. A. Macpherson's Blood Stallion "High Sheriff," carried off a prize of £10; and "Rich View," belonging to Mr. Henry Phillips was considered worthy of notice.

For the best Stallion above three years old, for the improvement of the breed of carriage horses, Messrs. J. G. and B. Clapham's "Comus," was successful.

In the Cattle section, Messrs. H. Phillips, McKnight, and John McKinnon acted as judges. Here Mr. Joseph Ware carried off prizes for best Bull, best Cow, best Heifer, and best Ox; and in

Sheep, of which Messrs. John Ware, William Learmonth, and John Ritchie, were judges, Messrs. Thomas McKellar, and William Skene carried every thing before them.

The proceedings terminated with a cold collation, at which Messrs. Edward Henty and Thomas McKellar presided.

SUBSCRIPTIONS received since our last issue:—

	£	s.	d.		£	s.	d.
Mr. Harper	...	0	10	0	Mr. Trebeck	...	0 8 0
" A. R. McLeod	...	0	8	0	" C. J. Tyers	...	1 9 4
" Thos. Testar	...	0	8	0	" Thos. Pigdon	...	0 4 0
" T. Butcher, per	...				Rev. John Stretch	...	0 8 0
Mr. Miskin	...	1	6	0	Mr. G. Buchanan, per	...	
" J. Connor, ditto	...	0	8	0	Mr. Gaskell	...	0 11 10
" R. Darby, ditto	...	1	2	6	" J. Dodd, ditto	...	0 15 4
" S. McGonigal, do.	...	0	15	0	" S. S. Lazarus, do.	...	0 8 4
" C. Prigg, ditto	...	0	8	0	" E. Serrae, ditto	...	0 12 0
" J. Scouler, ditto	...	0	8	0	Messrs. Fussell and	...	
" S. Talbot, ditto	...	0	8	0	Tress, ditto	...	0 7 0
" A. Dennis, ditto	...	0	14	4	Mr. C. F. Foley, ditto	...	0 15 4
" T. Hill, ditto	...	0	7	4	" W. Ellis, ditto	...	0 15 4
" E. Edwards	...	0	8	4	" W. B. Rodier, do.	...	0 15 4
" Manifold	...	0	15	4			

AGENTS.

ADELAIDE—"Farm and Garden" Office.

Mr. RIGBY, Bookseller.

ALBURY—Mr. A. B. PRITCHARD, Racecourse Farm.

ARARAT—Mr. GEORGE MERCER, Barkly-street.

AVOCA—Mr. FRED. DATE, News Agent.

BALLAARAT—Mr. G. E. GASKELL, Accountant, Humfray street.

Messrs. R. U. NICHOLS and Co., Seedsman, Main Road.

Mr. F. HUMFRAY, Stationer, Main Road.

Mr. G. SMITH, Victoria Seed Stores, Armstrong Street.

BEECHWORTH—Mr. CHARLES WESTFIELD, "Ovens and Murray Advertiser" Office, Ford-street.

BELFAST—Mr. WESTON, Bookseller and News Agent.

CASTLEMAINE—Mr. C. E. GLASS, Stationer, &c., Market Square.

COLAC—Mr. J. S. MISKIN.

CRESWICK—Mr. JOHN ROYCE.

FRANKTON—Mr. E. G. SAVAGE.

GEELONG—Mr. CLARKSON, Seedsman, Ryrie-street.

Messrs. FRANKS and JACKSON, News Agents, Malop-street.

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HOBARTON AND LAUNCESTON—Messrs. WALCH and Sons.

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MARYBOROUGH—Mr. READY, Chemist and Stationer.

Mr. HARPER, Bookseller.

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PORTLAND—Mr. WILLIAM FUBBARD, Julia-street.

SANDHURST—Mr. R. T. WHEELER, Bookseller, View Place.

STREATHAM—Mr. E. WILSON, Postmaster.

SYDNEY—Mr. J. W. WAUGH, George-street.

TARADALE—Mr. WILSON.

WARRNAMBOOL—Mr. OSBURN, "Examiner" Office.

Mr. JAMES HYDER.

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THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 12.

OCTOBER 31, 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

FARMERS' CALENDAR FOR NOVEMBER.

As there is every probability that the weather, after so long a period of moisture, may take up soon, and as the Hay crop promises to be very heavy, Farmers should at once set to work to prepare straddles for their haystacks, and to get a supply of thatch ready for covering the stacks when built. Many fine stacks of hay have been soaked with rain and destroyed through delay in thatching.

We have before given our opinion as to the cutting of Hay, that is, that all oaten Hay should be cut just as the flower is falling from the ears. The grain should not be allowed to form in the ear, for reasons we have already recorded. To allow this will be no gain, either to the weight or quality of the Hay, as is vulgarly supposed. If the weather sets in warm and dry, mowing will commence before the month is out. Great care must be taken to give the Hay the necessary amount of weathering; a little too much or too little may considerably injure it; and in stacking it, when fit, a great improvement in its quality may be effected by the application of some salt spread thinly, in alternate layers with the Hay.

The more forward of the Potatoes will now require the plough put through them to loosen the ground, and to lay the earth up about the bottoms of the stems. Keep a look out for slugs and wireworms attacking this root,

Mangolds, Beets, and Sugar Canes, should also have the land ploughed or hoed now, to loosen the surface and to check the weeds.

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Vine Culture !!

MR. BATSON'S Essay on "VINE CULTURE," in the August number of the "Gazette." Price, 6d.

Horticultural Improvement Association.

MONTHLY MEETING, on WEDNESDAY, the 13th October, at 7 o'clock p.m.

BUSINESS:

Discussion of Mr. Thomas Adcock's paper on the "Cultivation of the Dahlia."

Mr. W. Barton will read a paper on the "Cultivation of the Pelargonium."

A portion of the Ceylon seeds presented by Mr. Wilkins, and also seeds of the new Indian Raspberry received from Dr. Ferdinand Mueller, will be distributed.

Members desiring to suggest any alteration in the rules of the Society, are requested to bear in mind that notice thereof will have to be given in writing to the Secretary, on this occasion, in accordance with Rule No. 12.

Members whose Subscriptions are in arrear, are requested to forward the same to the Honorary Treasurer, prior to the audit of the accounts of the Society in December.

SAMUEL HANNAFORD,
Honorary Secretary.

Flemington Bone Mills,

Established—1855.

Superphosphate of Lime £10.

Bone Dust £6 10s.

Per Ton, in bags, delivered in Town.

Orders by Post to

J. MACMEIKAN & CO.,

FLEMINGTON Bone Mills, or any of the undermentioned Agents, will have prompt attention.

AGENTS:

W. Law and Co., at their new Warehouse, 118, Swanston Street, between Little Bourke and Lonsdale Streets, Melbourne.

Browne & Reid, 10, Collins-street East, Melbourne.

Ed. Alexander & Co., Gertrude-street, Collingwood.

James Murdock, 288, Brunswick-street, Collingwood.

W. J. Wood, Seedsman, above Toorak Hotel.

Charles Stone, Central Brighton.

James Moss, near the Red Lion, Hawthorne.

Child and Price, Dispensary, Brunswick.

John Davison, Malop-street, Geelong.

David Teeson, Moonee Ponds.

H. G. Powell, Seedsman, High-street, Kyneton.

G. W. Glass & Co., Seedsman, Market-street, Castlemaine.

George Dunbar, Seedsman, Dandenong Hotel, Dandenong.

Flower and Garden Seeds.

TO NURSERYMEN, GARDENERS, FLORISTS AND OTHERS.

THE Undersigned have for sale, small assorted cases of Flower and Garden Seeds, packed expressly for this country, by PETER LAWSON & SON, Edinburgh.

CALLENDER & CO.,

33, KING-STREET, MELBOURNE.

GARDENING OPERATIONS.

THE weather having been up to the present time unusually moist, Peas may still be sown with every prospect of a fair yield, in almost any situation. Moist, rather sheltered gardens are of course more favourable for the growth of summer Peas than exposed dry situations, and the former should always be imitated as much as possible. French Beans should be sown in rows, eighteen inches apart, and should be steeped for a night in water, previous to sowing. Scarlet Runners may also be sown in places not too much exposed to the sun. Sow a small patch of Celery for early planting. The soil must be rich and moist, or kept so. Where early crops of Peas are removed, ridges may be prepared for Celery, or for planting out Cucumbers and Melons, Tomatoes, &c., that may have been kept growing in pots. Of course well rotted manure must be used in quantity for either of these crops. It will not do to put in much Celery for the first crop, and it should be kept well watered or it will run to seed. Sow Lettuce in rows where they are to remain, manure being used plentifully and water also occasionally. Discontinue cutting from Asparagus beds when symptoms of weakness exhibit themselves, and a good watering with liquid manure will strengthen the roots for another year. Water Rhubarb with liquid manure, and remove all heads of seed as they make their appearance. Where not already attended to thin out Carrots, Onions, Parsnips, Beet, &c., and keep the hoe going amongst these and all other growing crops, not merely for the purpose of killing weeds, but also to encourage growth by loosening up the soil. Sow Salads, such as Radishes, Mustard, &c.

Fruit Garden.—Thin out Fruit where too thickly set on Peaches, Apricots, Peas, &c., and stop strong growing shoots on such trees. Finger and thumb pruning must be attended to. Tie up Grape Vines, and remove all suckers from around the roots of Gooseberries.

Flower Garden.—In the Flower Garden take up ripe bulbs. Water Roses. Plant Dahlias, sow Stocks and other Annuals for Summer flowering. Frequently cleaning and loosening up the soil of all flower beds.

THE "GAZETTE."

WE have again to request our Subscribers, whose Subscriptions are in arrear, (some for many years,) to remit them as soon as possible after the receipt of the current number. So large has become the aggregate amount of these sums, petty individually, that we regret to state that unless this appeal is promptly responded to by our country friends, it is quite impossible that the proprietors can continue the publication of the *Gazette*. It having been in existence now for five years, during the larger portion of which period it has been the sole medium for communications and information on agricultural and horticultural matters, and thus obtained a wide circulation throughout this and the neighbouring colonies, as well as in England, this is a step which we should much regret; the matter, however, remains entirely in the hands of our defaulting Subscribers!—ED. GAZETTE.

AGRICULTURAL JUDGES.

WHILE it must be very gratifying to all who are pleased to observe our progress, that the numerous Agricultural and Horticultural Exhibitions throughout the Colony are rapidly improving in the number and value of their exhibits; it must also be very plain that much dissatisfaction exists at many of the decisions of those gentlemen who are entrusted with the responsibility of Judges, and so long as there is room to suspect the honesty or ability of these gentlemen, the success of the Agricultural exhibitions will be much retarded. But the evil will not be confined to that inflicted on the local societies and the exhibitors; the whole Colony will feel its effects to a very great extent, for so long as inferior animals are elevated to the rank of first-class beasts, so long will judicious and competent breeders decline competition; and so long will our stock suffer from a deterioration consequent upon the finest bred animals being kept in the back ground, and condemned to hold a second or third place, altogether unworthy of their real merits.

To men accustomed to the rearing and breeding of Stock, the evil complained of

Colac Agricultural Society.

The Colac Agricultural Society's

ANNUAL EXHIBITION

OF

CATTLE, HORSES, SHEEP, PIGS, POULTRY, AND
HORTICULTURAL PRODUCE, will be held on

THURSDAY, NOVEMBER 7, 1861,

When the following Prizes will be offered for Competition:
(Intending Exhibitors will please peruse carefully the Rules regarding Entries, &c., as these will be strictly enforced; and observe and specify the Class and Number under which they purpose exhibiting.)

HORSES.

- Class 1. For the best entire horse of 3 years old and above, of the draught breed, £4; for the second best of this class, £2.
2. For the best mare of 3 years old and above, of the draught breed, £4; for the second best of this class, £2.
3. For the best Colonial-bred entire colt, of the draught breed, under 3 years old, £3; for the best yearling of this class, £3.
4. For the best Colonial-bred filly, of the draught breed, under 3 years old, £3; for the best yearling of this class, £3.
5. For the best thorough-bred blood stallion of any age, £4.
6. For the best thorough-bred blood mare of any age, £4.

CATTLE.

- Class 1. For the best short-horned bull above 2 years old, £3; for the best Colonial-bred short-horned bull above 2 years old, £4; for the best Colonial-bred yearling of this class, £2.
2. For the best cow of any age or breed, above 2 years old, £3; for the best Colonial-bred of this class, £3.
3. For the best bull of any other breed, above 2 years old, £4.

SHEEP.

- Class 1. For the five best Merino rams of any age, £2.
2. For the five best Merino ewes of any age, £2.
3. For the five best Southdown rams of any age, £2.
4. For the five best Southdown ewes of any age, £2.
5. For the five best Leicester rams of any age, £2.
6. For the five best Leicester ewes of any age, £2.

SWINE.

- Class 1. For the best boar, £1 10s.
2. For the best sow, £1 10s.
3. For the best sow with litter of pigs, £1 10s.

POULTRY.

- Class 1. For the best game cock and pair of hens, 10s.
2. For the best Spanish cock and pair of hens, 10s.
3. For the best Dorking cock and pair of hens, 10s.
4. For the best Hamburgh cock and pair of hens, 10s.
5. For the best of any other breed, cock and pair of hens, 10s.
6. For the best Turkey cock and pair of hens, 10s.
7. For the best Guinea fowl cock and pair of hens, 10s.
8. For the best gander and pair of geese, 10s.
9. For the best drake and pair of ducks, 10s.
10. For the best two dozen hen eggs, 10s.
11. For the best three rabbits, buck and two does, 10s.

HORTICULTURAL AND FARM PRODUCE.

- Class 1. For the best sample of Colonial grape wine (2 bottles), the manufacture of the exhibitor, £1.
2. For the best sample of early potatoes, grown by the exhibitor, not less than 6 lbs., 10s.
3. For the best sample of spring onions, grown by the exhibitor, 10s.
4. For the best sample of turnips, grown by the exhibitor, not less than 3 bunches, 10s.
5. For the best sample of carrots, grown by the exhibitor, not less than 3 bunches, 10s.
6. For the best sample of parsnips, grown by the exhibitor, not less than 3 bunches, 10s.
7. For the best 6 cabbages, grown by the exhibitor, 10s.
8. For the best 6 cauliflowers, grown by the exhibitor, 10s.
9. For the best peck of green peas, grown by the exhibitor, 10s.
10. For the best peck of broad beans, grown by the exhibitor, 10s.
11. For the best collection of garden vegetables, &c., grown by the exhibitor, £1.
12. For the best bouquet of flowers, 10s.
13. For the best 4 lbs. fresh butter, 10s.
14. For the best sample of potted butter, not less than 10 lbs., 10s.
15. For the best 2 cheeses, Colonial, 10s.
16. For the best ham, 10s.
17. For the best fitch of bacon, 10s.

REGULATIONS.

1. All exhibits must be *bona fide* the property of the exhibitor, and must have been in his possession for at least one month immediately preceding the Exhibition. Any infringement of this rule will disqualify from taking a prize.

will not matter much, because their experience and practical acquaintance with the subject, will enable them to judge for themselves, and to act in the selection of sires or dams for crossing, entirely irrespective of the opinions of incompetent Judges. But this class of persons is a small one; there are by far too many who are led away by the gingerbread temptations held out by "First Prize" medals or tickets—people who are incompetent to judge for themselves, and too suspicious, or too cautious to ask the opinion of others than the judges. There is an attraction about "first prize" stallions, bulls, rams, pigs, fowls, and implements, which no real defects in the successful exhibits can counterbalance. In vain may competent Judges attempt to point out the demerits of the animal or article, that has been awarded a prize to which it was not entitled. The Judges of the Exhibition have issued their fiat, and by that seven-eighths of the public will be guided.

For the credit of the Colony generally, the Judges of the various Agricultural Exhibitions have given tolerably just decisions; but if disappointment was expressed by any exhibitors, they cheerfully attributed what they considered an error to arise from inability on the part of the Judge, and not to any unworthy motive. Until the Colony has attained a riper age, and until the system of exhibiting has become more matured, we must expect some little difficulty in securing the services of really competent, disinterested, and impartial Judges for all the provincial exhibitions; and we shall feel inclined to deal lightly with errors of judgment, where the contrast was not too glaring, and a motive too manifest.

Those exhibitions are got up for the purpose of awarding prizes to the best exhibits, and thereby promoting competition. Judges are supposed to be selected to lead the public in the matter of choice, and certain rules are laid down for the guidance of these gentlemen as Judges, by adhering to which they cannot go far astray. But should an outcry be made at any time against any award, then it is the duty of the Judges to point out on what grounds they have gone against public opinion, and to show by the reasons that actuated them, either that the public is blaming them wrongfully, or that they are

unfit for the posts they hold. It must not be sufficient for the public to be told, in answer to a question, "Why has such and such a beast got the prize?" that he is the "best animal,"—they must be told in what way in every point he is superior to the favourite selected by public opinion. The public may be wrong, and their ideas of first-class prize animals may be a long way behind those of competent Judges, but they must know the extent of their ignorance; or it will be in vain to attempt competition in future. If established rules for judging are to be set aside, let us know the extent of the innovation in its details. If fineness of bone, silkiness of hair, delicacy of skin, smallness of horn, richness of colour, length of quarter, depth of brisket, shortness of leg, levelness of back, smallness of head, and general proportion and weight of carcase, are no longer to be the points of merit in horned cattle, let us know what, in the opinion of "our" Judges, shall form the points of excellence on which prizes are to be awarded.

As has already been stated, taking these Agricultural Exhibitions throughout the country, on the whole the awards of prizes have generally given satisfaction. True, there have been occasional grumbles, but perhaps those were, in many cases, without any just foundation; but when we find that at the greatest Exhibition of Stock and Implements held in the Colony, the partiality as well as the ability of the Judges is questioned, it is time to bestir ourselves and adopt measures to prevent a recurrence of so great a scandal. At the Exhibition alluded to—viz., the last Melbourne one, under the auspices of the Port Phillip Farmers' Society—no less than three prizes were awarded which, to say the least of it, gave great dissatisfaction to the public; among these prizes too, most unfortunately, were those for the best imported Shorthorn Bull, and the best imported Clydesdale Stallion; the third award which gave great dissatisfaction was the first prize awarded to Mr. Skilling, for a very ordinary coop—as a coop—of Spanish Fowls. It is not our province to attempt to show that any favouritism or partiality for the owners of the prize beasts actuated the Judges; and although there are many who form such an opinion, we are willing to suppose

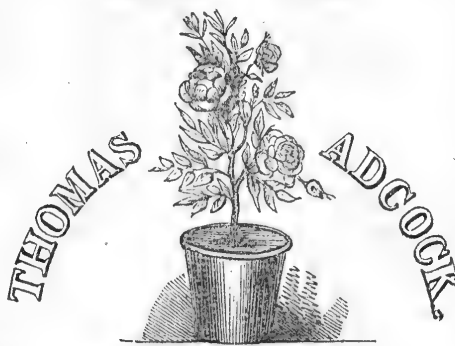
2. All entries must be made in writing, and signed by or for the exhibitor, on or before Monday, 4th November, at the office of the Secretary, when a Ticket will be given stating the Class in which the entry is made, and the number of the entry,—which Ticket the persons in charge of the articles for exhibition must bring with them, and produce at the gate; and no exhibit will be admitted into the Society's grounds unless such ticket be produced.
 3. The Exhibition is open to all; but exhibitors not members, must pay an entrance fee of £1, which will also constitute membership for the current year.
 4. No exhibit of Horticultural Produce shall occupy more than twelve superficial feet of space; any exhibit more or less than this will be disqualified.
 5. Exhibitors, if called upon by the Committee, must give every information in their power relative to their respective exhibits; and should such information not be satisfactory in the opinion of the Committee, any prize awarded may be withheld.
 6. Each exhibitor must place his exhibit in the proper class when directed, with the ticket received from the Secretary stating the class and the number in the class.
 7. No exhibit will be received into the yards on any account whatsoever after Eight o'clock a.m. on the day of exhibition.
 8. All persons intending to exhibit extra produce must intimate to the Secretary and describe the same, at least one clear day preceding the Show.
 9. No member can exhibit unless his subscription be paid up for the current year.
 10. No exhibitor will be allowed to remain in charge of exhibits during the adjudication.
 11. Any infringement of these rules will disqualify the exhibitor from taking a prize.
 12. The Judges may award a second prize instead of a first one, or may withhold a prize altogether when there is only one exhibit, or when the exhibits are not considered worthy.
 13. No Judge shall be an exhibitor in the department in which he is a Judge.
 14. The decision of the Judges shall be final, and without appeal. Any protest against or complaint of irregularity in exhibition must be lodged with the Secretary within one hour after the opening of the exhibition for the consideration of the Judges.
 15. No exhibit shall be removed from the Exhibition before 5 o'clock p.m., without written permission from the Secretary.
 16. The Society will not be responsible for the exhibits.
 17. Exhibitors may have any book or article of plate of the same value as the prize, by giving notice to the Secretary within three days after the Exhibition.
 18. Members are entitled to two admission tickets, which can be obtained from the Secretary.
 19. All exhibitors must conform to the rules and regulations, which will be strictly enforced by the Committee.
- Prize Lists and any other information, may be obtained at the office of the Secretary.

JOSEPH S. MISKIN,

Colac, October 5, 1861.

Secretary.

DAHLIAS. DAHLIAS.



Kardinia Nursery, Geelong,

Established 1851,

T. A. desires to inform the public, that his choice Collection of DAHLIAS, comprising upwards of one hundred and twenty varieties, is now ready to send out; a descriptive list of which can be seen at Mr. Clarkson's, Seedsman. Also, the SWEET POTATOE, red and white. This delicious vegetable succeeds well in this climate, is easily cultivated, and produced an abundant crop last season in my Nursery. For price, mode of culture, &c., apply as above, or to the Agents:—

Geelong—Mr. Clarkson, 8, Ryrie-street west.

Creswick—Mr. James Rogers, Auctioneer.

Beechworth—Mr. V. Rochlitz.

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

these gentlemen gave the prizes to the best of their ability.

Let us now ask in what way have they shown any ability. In the matter of deciding upon the merits of the two horses, "Royal Charlie" and "Blackleg," we will not express our opinion so forcibly as in the decision relative to the superiority of one of the two bulls, "Lord Raglan" and "Prince Oscar." The horses may have been so nearly similar in all their best points, that there may have been some difficulty in arriving at a conclusion; but when we hear some people say that the judges gave "Blackleg" the Challenge Cup BECAUSE, had "Royal Charlie" got it again this year, his owner would have been entitled to keep it altogether; and others, BECAUSE, "Royal Charlie" having carried off several prizes already, they, the Judges, thought it only fair to give another horse a "turn," we cannot help coming to the conclusion that a large section of the people interested in these useful exhibitions have no confidence in the ability of the Judges. Of the award of the first prize for bulls to "Prince Oscar" in preference to "Lord Raglan," we can scarcely trust ourselves to write—it was one of the most barefaced and shameful instances of incompetency, on the part of Judges, we ever witnessed. Mr. Greene and his friends will, of course, be of a different opinion, and may condemn our judgment; but if we are at fault, we have the satisfaction of knowing that we have nineteen-twentieths of the best judges of cattle in the colony on our side. We are by no means singular; if there be any singularity, it lies with "Prince Oscar" and his friends. No man who is a judge of really good cattle, will ever again, we think, place them for competition before the gentlemen who have so distinguished themselves for their want of judgment on this late occasion.

But admitting, for argument sake, that the Judges were right, and that the public were wrong, does it not seem reasonable and just, that where such a difference of opinion does exist, the Judges are bound to state their reasons for awarding first-class prizes to what the public consider only second and third-rate animals. If they can point out in what respects one beast is better than another, and can show that it has more good points

than its rival; the public, or a portion of it, might possibly be convinced that it was holding an erroneous opinion. At all events, people would know how to compete—if not for prizes, at least for the Judges' favour. Good and competent breeders would either not compete at all, or they would add a dash or two of coarse blood to their fine stock, so as to secure the qualities that they know will find favor with the men who are to be the Judges. It is a great pity that such a state of things exists, and that public confidence in the ability of these Judges is so thoroughly shaken. We trust the Port Phillip Farmers' Society, and all other societies of a kindred nature, will, before next year, use their best endeavours to secure the services of the most competent and most impartial men they can find; if they do not, we may safely predict the rapid decay of these interesting and highly useful exhibitions.

SEASONABLE HINTS.

WE referred in our last number to the necessity, if good fruit be required, for thinning all kinds of fruit as soon as they have fairly set. And we revert to it again, as it may yet be done, especially amongst peaches, apples and pears. Grapes also should be thinned out if large and fine bunches be required for table or any special purpose. Of course grapes are not ready for thinning yet, but the hint may be of service. Finger and thumb pruning should also be continued, and we would here remark that the amateur has the advantage with his small garden over those who have gardens of great extent, as he has a few trees which he can keep perfectly under control without other than a little looking over now and then. If November comes very hot and dry, trees not very well established, and bearing a little fruit, should be well mulched round the roots with nearly rotten dung, and this again covered with soil in a dishing manner, that water may easily be given over all if necessary.

Cucumbers and Melons as they begin to run should be carefully trained and pegged down to the surface, which may previously be covered with a layer of kangaroo grass or material of a similar nature; this will not only serve to keep the roots cool and moist, and facilitate watering, but it will keep the fruit clean in heavy storms of rain, which generally play havoc amongst Melons, &c.

Rhubarb and Asparagus beds may continue to have abundant supplies of manure-water to keep them growing, but where Asparagus beds exhibit symptoms of exhaustion, throwing up weakly-looking grass, no more should be cut. The bed should have some liquid manure, and be left for the season.

Seakale that has been blanched should be exposed to the light to strengthen the roots, and the ground should be forked up between

GRASS SEEDS.

FOR IMPROVING PASTURES AND FOR LAYING DOWN LAND ANEW.

HANDASYDE, M'MILLAN & CO.,

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the rows. Manure-water may also be given here with advantage.

In the Flower Garden all bulbs that have ripened off their leaves should be removed from the ground as soon thereafter as possible, and be stored, properly marked, in some moderately dry and warm place till required; care must, however, be taken that they do not get moist and hot, and thereby be destroyed. If they were hung in a cool airy place in strong paper-bags, they would almost keep better than in any other way. This refers to Tulips, Hyacinths, Ranunculus, and other similar bulbs and tubers. The advantage of removing them is, that their places may now be occupied by annuals, &c., without danger of being injured by the spade, and they can be carefully re-arranged to flower in groups for contrast another year, and it prevents them getting in large ungovernable lumps. Roses should have some well-rotted manure placed round their roots, and in dry situations should be watered with weak liquid manure. A careful look out should be kept for caterpillars, and if the weather be dry and hot, the plants might be syringed of an evening. The Hybrid Perpetuals if slightly pruned in after flowering will grow and flower again by and by, as their name indicates. Budding these may soon be proceeded with, and for an exposition of the principles of this method of increase, we cannot do better then refer to a very excellent paper that appeared in our journal from the pen of Mr. Henry Adcock, a budder of great experience.

Notes on Greenhouse Plants.

(Continued.)

Epacris.—This, though a native of the colony, well repays the trouble taken in cultivating it under some kind of protection from the exigencies of the weather; and it is one of the most beautiful tribe of plants under cultivation. The species are numerous, and by care and attention to breeding from distinct and dissimilar kinds, numerous splendid varieties have repaid the English cultivator. There are few of the great collections exhibited at the early exhibitions of the leading societies in the mother country, wherein the *Epacris* does not figure. They flower in late winter and early spring, and for that reason they are all the more valuable. They are of the hard-wooded very fine rooted tribe of plants, and require careful and judicious treatment grown as pot plants. Cuttings may be struck in silversand, care being taken that the pots have been, previously to having the sand put in them, half filled with rough peat earth, or some light fibry black mould over the drainage. But we recommend the purchase of small established plants from the nursery to begin with. If plants so obtained be in small pots, and the roots have reached the sides of the pot through the soil, and this be in the spring, they should be removed into pots a size larger, the soil used for the shift being peat, not too fine, with a little silver sand and some small pieces of charcoal mixed with it, and the pots should be well drained. After the plants have been moved, they may be kept a little close and warmer than usual, in a moist atmosphere, for a week or so, to induce growth in the roots, and should then be allowed plenty of air, and be frequently syringed over

the leaves, being also well tended at the roots with water. If the plants grow rapidly the points of the leading shoots should be pinched out to induce a bushy habit, and the branches may be tied out to encourage the growth of such habit.

In summer the plants should be placed in the open air behind a wall or dead fence facing the south, on ashes or soil mixed with gas tar and allowed to harden; this is to keep worms out of the pots. They must be frequently syringed, and should never on any account be allowed to flag from want of water. At the same time stagnant water at the roots will destroy them. Amateur Gardeners should bear in mind that it is one of the worst plans possible for the health of plants to allow them to stand in saucers of water. Plants may be watered twice a day if necessary, but should never be allowed to stand in water, and they should also be watered with soft water that has been exposed to the sun. Cold spring or tank water should not be used until it has stood in the open air for some time, and it is also a good plan to have an awning of canvas to protect the plants placed out of the greenhouse for the Summer from the effects of thunder storms or heavy rains. When the Autumn arrives the plants may be removed to the greenhouse being allowed plenty of air, and be kept moderately moist at the roots during winter. There are some magnificent varieties now cultivated in England, and no doubt many of them can be obtained of the nurseryman here.

Cape Heaths.—We have been much astonished to find at the many exhibitions we have seen in the Colony, so few Heaths, than which better exhibition plants scarcely exist. There are hundreds of varieties, and almost all of them are very beautiful. They require a treatment very similar to the Epacris, and require to be gradually shifted into larger pots as they get older. It is a great mistake to put small plants into large pots. They not only look ugly but the soil in time becomes sour and unsuited for healthy roots, which gradually die, and finally the plant goes off all at once to the astonishment of the inexperienced gardener. We have heard it remarked that Cape Heaths seldom do well in this Colony, but like many other sayings of a similar nature with regard to other things, this we argue is a fallacy. Of course pot plants of any kind, with fine roots and as fine foliage, will not bear exposure to the burning sun under glass, but as it is generally want of sunlight and dry air to ripen and harden the young wood which is complained of at home, it cannot certainly be very difficult to modify these when too intense here. The soft wooded and quick growing varieties of Heath may even be forced to flower a little earlier than their wont by the use of a moderate persuader of heat, but the hard-wooded, slow-growing varieties must never be forced into growth. They delight in a soil like that recommended for the Epacris, and should be treated almost in the same manner.

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one. They require to be potted in a mixture of turfy loam and peat in equal quantities with some silver sand and pieces of charcoal or bone the size of a marble, for large pots, mixed with it, and plenty of drainage in the bottom of the pot. As the panicles of flowers spring from the wood perfected in growth the previous year, similar to the Rhododendron, &c., the plants should be kept in a moist warm-growing atmosphere after they have flowered, to make their growth of young wood, and when they have ceased to grow, they should be gradually inured to a cooler and dryer atmosphere until finally hardened off in the open air. The plants should be frequently syringed, and the leaves syringed underneath to keep them in health, and when Winter comes they should be kept in the warmest part of the green-house. These are fine plants when in full flower for decorating a drawing-room on grand occasions.

The Cultivation of the Dahlia.

Read before the Horticultural Improvement Association, 17th October, 1861, by Mr. THOMAS ADcock, Kardinia Nursery, near Geelong.

THE DAHLIA, so called in honor of Andrew Dahl, a Swedish Botanist, and pupil of Linnæus, was first introduced into England from Mexico, in the year 1789, but so marvellous has been the transformation effected, that we much question if the Dahlia then imported was placed by the side of a stand of flowers of the present day it would be recognised as belonging to the same genus.

This favourite flower was, however, almost entirely neglected, until within the last half century, for in the year 1815 it was still thought to be tender, being grown in conservatories; about this time a gardener in the neighbourhood of London planted it in the open border, and found it produced better flowers than formerly, still it was only a single flower.

I believe it was about the year 1816 the first double Dahlia was produced, but it was very imperfect when compared with those of the present day, or even with those that immediately succeeded it; from this time it began to receive the devoted attention of the florist, and subsequently it has received perhaps more attention than any other plant in cultivation, nor has any flower more amply rewarded the care of the florist in his incessant and praiseworthy endeavours, it having completely emerged from a single insignificant to a fine double cupped first-class florists' flower, equalled only by that flower of the garden,—the "Rose."

From the time above alluded to (1816) to the present, nothing could exceed the excitement and interest which has prevailed with respect to this plant, and stimulated by exhibitions, &c., hundreds of seedlings, all possessing more or less merit, have made their appearance, and been cultivated for a time, only to be supplanted by others of greater merit.

Viewing the Dahlia as it was, and as it is, the question may perhaps be asked, can any thing further be done to make this noble flower still more attractive? To this we reply, yes; rapid, indeed, and wonderful has been the progress made, but still much remains to be done; how often do we find the best flowers, although possessing many points of great

excellence, deficient in one or more? for example, sometimes producing only two or three good flowers during the season. This in part may be accounted for by improper treatment, but it is, nevertheless, a fact that some varieties soon run out, in spite of all care, while others appear to remain as constant as the day; it is therefore highly desirable to cultivate more of the latter class.

A fine field is open in this climate for the florist to improve the Dahlia; it has succeeded here beyond the expectation of the most sanguine, as our various exhibitions amply testify, and with a little more experience as to its cultivation, I have no doubt much will be done to make it more generally prized in this southern hemisphere.

In its cultivation here we must avoid the two extremes of rashly rejecting, or inflexibly following the method prevalent at home, our endeavour being to obtain all the information from whatever source we can on the cultivation of this "King of Autumn," and our Society will greatly further this object, each member bringing his experience to the general fund of knowledge, so that we look forward with confidence to the day when every cottage, as well as mansion, in this sunny clime, shall be adorned with this noble and beautiful flower.

THE SITE.—Without doubt the best aspect in the climate of Victoria is east, or north-east, which is sheltered alike from the prevailing winds, hot and cold; but where the garden does not possess this natural protection, advantage must be taken of a wall or fence, or both, (as the case may be), and where neither of these are available, some provision should be made to break the force of the winds; this might be accomplished by placing posts in the ground, and stretching along them galvanized wire, and planting along the line hardy ornamental climbers, care being taken to blend the colors of the flowers; they will produce a most pleasing effect, as well as afford protection for the plants,—a trellis of Vines would answer the purpose equally well,—this applies to large gardens where a bed is planted; in small gardens where only a few roots are planted advantage should be taken of the end or side of the house, or any other eligible place that presents itself. Avoid a high north exposure (if not protected by a belt of trees at a short distance,) and low swampy flats.

SOIL.—As a rule a rich, light, somewhat loamy soil is best adapted for the Dahlia, and it ought to be trenched, say eighteen inches, some months, if practicable, before planting, and left as rough as possible for the action of the sun and atmosphere; some of our best varieties are liable to produce hard green centres, such I recommend to be planted in soil as above, with a liberal supply of water; those varieties that are more constant may be grown with less attention, and perhaps better and larger flowers on a stiff loamy soil, but in all cases a liberal supply of well rotted stable dung should be used, an old hot-bed is admirably adapted for the purpose, and if a little sheep dung is added so much the better.

Where the soil is unsuitable, holes might be made and filled up with a composition of grassy or turfy loamy soil, old decayed manure, &c.

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PLANTING.—Supposing the ground to have been well trenched, little remains to be done in preparing for planting; the soil should however be well pulverized and levelled.

As to the time of planting, we have yet much to learn; the general planting should be performed in the middle or latter end of November, and a few more in January. I am decidedly of opinion they might be planted also in the middle of September, which would ensure early flowering; care must be taken of them for a few nights to prevent their being cut off by frost.

If a bed is to be formed the rows should be five feet apart, and four feet six inches in the row; if planted nearer the plants are liable to become drawn and cannot then produce good or large flowers. Take care to plant the tallest growing in the middle or at the back, as the case may be. If planted in the flower border give sufficient space to admit the air to circulate freely.

Dig the holes so as to admit a few spadefuls of good rich soil to be placed at the bottom to give the plants a start.

In selecting the plants, avoid those that have been too long in the pots, or have become hard in the stem, or drawn, and choose those that are short and stout, swelling freely and regularly, and growing at the points, of course taking care to procure good varieties only. Attention to these few simple remarks will ensure success, while on the contrary, the greatest care is requisite with bad plants, which, after all, generally prove a complete failure. Choose a dull day for planting, and give a good watering to settle the soil around the roots.

STAKING AND TYING.—The ordinary Vine stake is well adapted for this purpose, and one should be firmly fixed in the ground to each plant at the time of planting. The plant must be securely tied to the stake, the best material for this purpose is what is known as budding worsted, which is much less liable to cut or rub the plant than any other material.

Additional stakes must, from time to time, be placed round the plant as it increases, in such a manner as to tie out the branches to admit a free circulation of atmosphere among the foliage and flowers as well as prevent them rubbing: this is most essential where it is desirable to obtain fine large flowers, besides which, what can be more unsightly than the branches, foliage and flowers drawn together in a mass around the main stem as though a mere bundle of green stuff. It will be found necessary to look well to the tying in this windy climate, as the plants will grow very rapidly in showery weather, and consequently are easily broken; they should therefore be examined, say twice a week, and tied when necessary. The operator must not omit to look to the main stem, the ties of which must be removed to admit of its increasing size.

THINNING.—This must also be attended to simultaneously with tying; it is difficult to give any specific direction on this subject, much depending on the vigour of the plant; but as a rule, do not allow the plant to become full of small branches, but thin them out, so that each branch shall be tolerably clear of its neighbour; again I repeat avoid the practice of allowing the plants to become a thick mass and then subject them to a severe thinning, in which case they would suffer considerably from sudden exposure. If the

plants are too forward for an approaching show their blooming may be retarded by cutting back the shoots twelve or fifteen inches or more, say four weeks previous to the exhibition. All the first flowers should be removed as soon as they appear until the plant becomes strong. The operator must not thin all varieties with equal severity, those that grow strong and coarse must be spared for a time and gradually thinned out after the plant has partially exhausted itself, and those varieties that produce good though small flowers should be thinned freely. Equal care is necessary in thinning out the flowers, if it is desired to grow them for exhibition; it will however require close observation and some experience to make the operator perfect, but a steady perseverance will eventually overcome all difficulties.

WATERING.—If the plants are growing quickly (which is invariably the case in showery weather), do not water them at all, for if the growth be too luxuriant the plants will become soft and tender, and the first hot wind that succeeds will produce the most disastrous effects; but when the foliage begins to look somewhat old and of a bad color, and the tops manifest symptoms of ceasing to grow, then give them a liberal supply of soft water, or liquid manure made from guano, cowdung, or soot, or soapsuds; do not in any case use these stimulants until a fortnight or three weeks after planting. I prefer the two last as being good stimulants to the plants and very destructive to insects, many of which infest the Dahlia.

Be sure to keep the soil light and porous and free from weeds by occasional stirrings with a fork.

It is also desirable to mulch with half rotted manure around the roots; this will greatly assist in keeping the roots cool and moist,—evening is the best time to apply the water or liquid manure, in addition to which sprinkle the foliage with clear soft water by means of a water-pot with a fine rose, this has a most beneficial effect in promoting the health and vigour of the plant, and acts as a check upon that destructive pest, thrip. Omit watering the foliage in very windy weather.

SHADING.—The most prevalent mode is with flower pots inverted upon what are called tables, I have not tried this, or any other method in this climate, but recommend a trial; all the flowers I have exhibited have been exposed to the full rays of the sun, cut, however, sometimes two or three days previously, and kept in a cellar.

Of all enemies amongst insects I have found the grasshopper the greatest; to check its ravages muslin bags must be made a little larger than the flowers; these will also afford a slight shade, but for show purposes a little more care should be bestowed, the blooms should be placed under canvas bags, stretched out with wire, (similar to the one upon the table,) the board of which must be firmly fixed to a good stake: these covers should be placed over the blooms when about half expanded, and when the flower is complete, cut it, and place it in water in a cool cellar,—by this means the properties of the flower may be maintained for a few days. A very little experience will teach the operator that he must not shade all varieties alike, and that whatever be the material used, a free circulation of atmosphere is desirable.

PROPAGATING.—The mode of Propagating in this climate is so simple that any amateur may easily keep up a supply with little trouble. Supposing he has one tuber of a few varieties to begin with, and wishes an increase of two or three plants each. In the month of August procure a good load of hot stable manure, shake it up in a square heap, and place a one-light glass frame, or simply a square box with the bottom out, and a calico top upon the bed. Place inside three or four inches of sand, light soil, or ashes, take the old roots and secure the labels, cutting back large tubers (if any) so as to make the best of the room, then place the roots as thickly as possible in the box or frame already prepared, and more of the former material among the roots until level with the crowns, water sparingly, and give a little air to allow the escape of any vapour from the dung; when the young shoots begin to show their foliage, air freely in favourable weather, the quantity of air to be ruled by the appearance of the shoots,—if thin, long-jointed and transparent, they are being kept too close, they should be stout, short-jointed, and the foliage green. When the shoots are two or three inches long, and three or more from each plant, (the number required), take out the roots and divide them so as to leave a portion of the old tuber (say one or two inches), to each shoot, and put them in four or five inch pots well drained, with light rich soil, and replace them in the frame or box, slightly water and keep close for a day or two.

If some of the plants only produce one shoot each, take them off when about two inches long near to the old root, and pot them in thumb pots, one in each well drained, three parts filled with light vegetable sandy soil, and the remainder filled up with pure sand, or if room is an object place five or six round the inside of a four-inch pot prepared as above; these cuttings will require a little additional heat by either placing warm dung around the old bed, or forming a new one. In a few days those roots from which the cuttings were taken will produce two or three more, so that the number required may soon be obtained.

In about three weeks the cuttings will be established, they should then be re-potted, such as are five or six in a pot should be put into thumb pots, or if put into thumb pots previously, they should now be put into four-inch pots well drained as before directed, and returned to the frame, and when properly established should be removed to a shady corner to harden off previous to planting, the hardening off, however, should commence in the frame. It is not, however, essentially necessary to have artificial heat; if the roots are placed on a warm border and covered as in the frame, they will soon begin to push when they may be divided and planted out about the middle of October.

SEEDLINGS.—Raising new varieties is, perhaps, the most pleasing part of the cultivation of this noble flower; what can be so pleasing a task (if task it may be called) to watch day by day, the expansion of each promising bud, to the full development of the flower. The amateur of all others is in the best position to raise new seedlings, as he will generally have a few very select varieties, while the practical man will probably have some from which it would not be desirable to

save seed, and which would, most probably, prove detrimental to his success, hence it is that we are indebted to the amateur for nearly all our best sorts.

Much might be said and written on the best method of saving seed; I must, however, confine myself to one or two remarks,—do not allow a profusion of flowers to remain upon those plants from which you propose to save seed, and remove all that are imperfect, and when the seed is cleaned, sow only the thinnest and smallest.

TAKING UP AND STORING.—It is the practice of some to allow the roots to remain in the ground all the winter, I have tried this plan twice and have abandoned it, and purpose to return to my former plan, viz.:—When the foliage is shrivelled and dead cut down the stems to a few inches above the surface, and with a strong fork raise the roots a few inches, but do not take them out of the ground, this will prevent their starting to grow which they are apt to do if it be showery, it will also allow them to drain; in a few days or a week take them up, shake off the earth and place them to dry, but do not allow them to shrivel. The time allowed for drying must depend upon the weather, a few days will suffice. When properly dried place them in a box with the labels well secured, and fill up the space between the roots with light soil, sand or wood ashes, perfectly dry, shaken well in to exclude the air by raising the end of the box, and striking it smartly upon the ground; it should then be put in a dry cool place till wanted.

If it is intended to plant the same bed the following year, it should at once be manured, thrown up in ridges, and left rough all the winter.

In order to keep the Dahlia constant it is necessary to change the soil, by procuring plants from a distance (by exchange or otherwise) they being likely to degenerate seriously if grown year after year in the same garden.

CLIANTHUS DAMPIERII.—The Desert Pea from its brilliant color and profusion of blossom has become one of the most attractive and favorite flowers of Australia. Here in its native region and climate, as well as in England, it has been found difficult to propagate, and many plans have been adopted to cultivate it with certainty and in abundance. The seed has been sown in hot beds, some singly in thumb pots, and in many instances the plants have come on vigorously and healthy. Hundreds have, however, fogged off, and as many more died away upon being transplanted. Like almost every other kind of native flower or shrub it does not like being removed or shifted. The successful plan to grow it is this. If the season is tolerably dry and warm, sow the seed either in open bed or border, where it is intended to remain during the middle of the present month or the next; shelter the young plants, by surrounding them with fern or other foliage; do not let them trail upon the ground, but place some bush sticks, well forked for the plant to climb up. Smooth garden sticks will not be so good, as the plant prefers to cling round the bark of a tree. By this system a quantity of seed may be saved, as the pod or seed-vessel has the advantage of air and sun to ripen it more than if left creeping on the ground.—**VELOCIFEDE.**

VINEYARDS.

PROVINAGE.

I BEG to occupy your space by a few lines on this part of the cultivation of the Vine which seems to be much misunderstood. I was told some time since of an English Gardener who frankly confessed that he did not know how to make a "provin," and of another who pulled up the Vine he had to lay, then planted it again in the middle between the two points where he wished his trees to grow, then bent one cane to the one point, and the other cane to the second point.

Let A B C, *d e f g h*, represent a row of Vines in which A has grown, and B has not. About the beginning of July, in dry weather, open up a trench from A to B. 2nd. Clear the ground well from round A. 3rd. Bend the old plant A, breaking and cutting as few roots as possible, well down to the bottom of the trench. 4th. Bend, taking care not to break, one cane back to A, and the other cane to B. 5th. Cut each cane off at about two or three inches above the surface of the ground, and fill, or partially fill the trench with earth—the Provin is made, and he would be a slow workman who would not make one in a quarter of an hour.

Well, but what a lot of trouble; why not put in a cane or a rooted vine? I answer, first; because neither the one nor the other of these would grow well among older and well rooted plants. 2nd; either of these would be a longer time coming into bearing than a provin would—each of the plants formed by provinage will bear fruit the same year. 3rd; each bud of the canes thus buried may become a root, and thus the plant may derive from the soil many times the quantity of nourishment which would be obtained by a rooted Vine.

I have only to add, that if on any account the Provinage has been delayed, it may still be done as above described, even after the Vines have begun to shoot, but it will require more care to avoid breaking the canes which are to form the provins.

DISBUDDING.

The Vines are just putting out their young shoots. Allow me through your columns to direct the attention of those who may be somewhat inexperienced in these matters, to the necessity of getting among them early and, 1st; with forked hoe, digging fork or spade, turn up their ground and make it clean. 2ndly, remove all suckers at once; and 3rdly, remove superfluous shoots while they are still so young, that they may be rubbed off by a slight touch of the finger and thumb; the sticks should then be put in, or if loose tightened, and as soon as the shoots have grown to about the length of eighteen inches or two feet, they should be tied, taking care at the time to remove all laterals by pinching them off (with finger and thumb) at the second joint from the principal stem, and this process must be repeated. A Vineyard of three or four acres will keep a man a day or two in the week going through, cleaning off weeds, and removing laterals, tying such as may get displaced; allow me to impress on every one's mind, that in this, as in other things, "a stitch in time saves nine."

D. L. PETTEVAL.

VINEYARD APPRENTICES.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—The Government having offered a bonus of £10 for every practical Vinedresser imported from the Continent of Europe, I beg to point out to Vine cultivators and the country generally, the importance of training up a portion of our Colonial Youth to this branch of cultivation, and to the trade of making Wine up to the point at which that article leaves the producer. An intelligent strong lad would, in about three years, be able to learn most that has to be learned; of course to be improved by experience; and the Colonial Vinedresser would have this advantage over the imported one, that he would have learned his trade under all the peculiarities of climate, &c., which distinguish this country from others.

I need scarcely point out that training our Youth to habits of continuous, daily, unexciting industry will be one of the best preventives of crime.

Yours, &c.,

D. L. PETTAVEL.

AGRICULTURAL CHEMISTRY.

PHOSPHATES IN COW-DUNG.

PREVIOUS to the time when the value of Phosphates in manures began to be appreciated, the now unquestionable effects of Cow-dung were rather undervalued among farmers, though gardeners, particularly practical florists were in the habit of making it an ingredient in their composts for choice varieties of *Polyanthus*, and other *Primulaceæ*. Its tenacity imparted a clearer texture to the compost, which, without the Cow-dung would not have been sufficiently compact. For the same reason it was, and is still employed to increase the tenacity of grafting clay. The thrush and the window-swallow instinctively use it for the same purpose in plastering their nests. The bits of undigested grass and other herbage usual in Cow-dung, no doubt, has a similar effect to Cow-hair in common plaster, and the straw in the ancient Egyptian bricks made by the Israelites, while the same fragmentary grass and herbage, by its decay, when used as a manure, must develop carbon and ammonia, besides potash and other valuable elements.

I think it is probable that the cause of farmers under-valuing Cow-dung as a manure, may be partly traced to the old experiments of Hermstadt, as reported by Kurt Sprengel in his *Botany*, making the per centage of gluten produced in Wheat, the test of the value of the manure experimented upon. Hermstadt found, that when he manured with horse-dung, 10 per cent. of gluten was produced in the grain; but when he manured with Cow-dung the Wheat yielded only 7 per cent. I am not aware whether those old experiments of Hermstadt's have been tested by any recent investigations, now that our analyses are so greatly improved; but this I do know, that Cow-dung is rich in one of the great elements of fertilization in manures,—namely, phosphoric acid, and the salts which it produces with lime, iron, and magnesia. The per centage of phosphate elements, will of course,

vary with the sort of food given; and in Hermstadt's experiments this all important circumstance is not mentioned. A Cow, for example, fed upon potatoes and beet root exclusively, or with hay, grass, or grain, will have in her dung (derived from such food) phosphates of lime and magnesia, but no silica,—the ashes of the solid excrements being mineral ingredients insoluble in water.

The history of Calico Printing exemplified these insoluble ingredients in a very interesting and remarkable manner. The white spots left unprinted were found to become soiled and discolored in the after operation of washing out the mordants or *dead* colouring, preparatory to giving the finishing tints, and it has been discovered, (probably from the antiquated processes of home bleaching) that a previous bath of cow-dung diffused in water had the effect of preventing that soiling and discoloration. In consequence of this singular discovery an old calico printing establishment always required a dairy as an indispensable accompaniment, like one of the old bleach works, in which the unbleached linen was always steeped in a solution of fresh Cow-dung.

Chemistry, however, was not long in discovering that the effect of preventing the soiling and discoloration was produced by the insoluble earthy phosphates in the Cow-dung; and now, accordingly, these phosphates are applied at once, with a due proportion of size to retain them, instead of the former clumsy process of the Cow-dung bath. The eminent Agricultural chemist, M. Bousingult, found of ash in Cow-dung,—

When fresh 1.13 per cent.
When dry 12.00 per cent.

Professor Anderson of Edinburgh, in the most recent analysis I can procure, (the Cow being fed on the ordinary winter food), found in fresh Cow dung—

Water 82.45
Ash 15.23

One hundred parts of this Ash, he found contained—

Silica	...	62.54
Potash	...	2.91
Soda	...	0.98
Chloride of Soda (common salt)	...	0.23
Phosphate of Iron	...	8.93
Lime	...	5.71
Magnesia	...	11.47
Phosphoric Acid	...	4.75
Sulphuric Acid	...	1.77
Carbon	...	Trace
Loss	...	0.71
		100

Acting practically then on the ascertained fact of the presence of these valuable phosphates in Cow-dung, it might be worth while in cases where it can be procured in quantities, to manufacture it into artificial manure. Being easily dried it could be advantageously mixed with prepared night soil, or it might be hydraulically pressed along with the stable manure to be carried a distance.

Cows urine from the drainings of byres and cow sheds is also very valuable, both as a liquid manure and in the manufacture of perfumes. The elegant and expensive perfume, known as "Eau de Millefleurs," (*Water of a Thousand Flowers*), is prepared from these drainings by distillation; and the name is not so inappropriate as at first sight it might

appear, inasmuch, as bush-fed or meadow-fed cows crop many thousand flowers before preparing the raw material for the refined processes of the chemical perfumer.

J. R.

Correspondence.

CULTURE OF TORINIA ASIATICA.

To the Editor of the *Agricultural and Horticultural Gazette*.

Sir,—I some time since at one of the Shows in Geelong saw a small plant of the above, and it was attracting a large number of admirers, especially ladies. I have not seen any exhibited since, and as I have been a grower of it, I beg to offer a few words on its culture to induce some of our Gardeners to grow it, as it is certainly very beautiful. Perhaps cuttings cannot be obtained, a small plant must therefore be got, and should be kept growing for a while in the moist heat of a hot bed, moderate, to insure rapid growth. When the plant begins to grow, take the points of the young shoots about three inches long, cut the shoot with a sharp knife just under the two last leaves on it, which should be removed. The cuttings should then be inserted, say five or six round the side of a six-inch pot, in very sandy soil, under a bell-glass, and the pots should be plunged in a very mild bottom heat. They will soon begin to grow and the bell-glass should then be removed, to gradually harden off the cuttings. In a short time turn out the ball of earth on the palm of the hand without breaking up the soil, and see if the roots had reached the sides of the pot. If so put in the young plants singly into three-inch pots in a compost composed of light fibry loam, leaf-mould and sand, with plenty of drainage in the pot. Plunge the pots in a very mild heat for a few days to start them, and they should then be kept in a moist warm-growing atmosphere. As the young shoots advance in growth their points should be pinched out to encourage others to grow, and the plants must be shifted into larger sized pots, as they fill their pots with roots. They should be trained on a round trellis of wire, and in order to keep them the same on all sides, the plants should be frequently turned round to face the light. They will grow and flower for a long time, and when they are fairly established plants, they may kept in the green-house. The leaves must, however, be kept moist, for they are very subject to red spider. Towards Winter the plants may be allowed to rest, and should be kept rather dry at the roots, and should be pretty well pruned in. In the following Spring they should be started into growth in a little heat, and as the plants grow and are shifted from time to time into larger pots, they become splendid objects. It is well to grow a succession of young plants every year, as the old plants the second year may be discarded, being in large pots, and taking too much room in Winter.

Inserting this may be of some service to your readers.

I am, &c.,
AN OLD GARDENER'S BOY.

EXTIRPATING SORREL.—Almost every farm on the Barrabool Hills is, at the present moment, red with the bloom of this tiresome weed. Can you, or any of your readers state from experience, whether sowing with manure, White Clover, Rye Grass, or Timothy Grass, or a mixture of these, and leaving them to grow for hay, for say two years, would drive it out?

THE "ARGUS" PRIZE CUP.

THE Report of the Judges appointed by the Board of Agriculture to inspect those Vineyards, whose owners desired to compete for the "Argus" Prize Cup of One hundred guineas, which was offered for the one the most skilfully managed, is full of interest, and although too lengthy to reprint in full, there are many important details brought to light during the investigation of the Judges, which may prove of service to those who are novices in this branch of rural industry, as well as to those who have already made it their study. The competitors were but five in number, so that the Judges (able men all) had but an easy task; their operations commenced in the Vineyard of Mr. Murray, at Borocndarra; this, forming a portion of an area of about eight acres, fenced in substantially with a five feet paling fence, with plantations of *Grevillea robusta*, and other suitable trees, to afford due shelter, was about two acres in extent, with sandy soil, and on a gentle slope facing north-east. The Judges found a want of strength amongst the young Vines, which they considered mainly attributable to the soil having been imperfectly worked, and ploughed only to a depth of six to nine inches. The Vines planted were too numerous in variety, and too few of each, and therefore it was considered that the existing Vineyard should be looked upon rather as a nucleus for the formation of more extensive plantations at a subsequent period, than for the production of Wines. The economical buildings, erected of a brick, sun dried, of clay mixed with hay, straw, &c., were deemed worthy of notice.

Mr. de Dollon's Vineyard, near Gardiner's Creek, was next visited; the predominant soil was a sand loam, with clay subsoil; aspects various from south-west to north-west. About seventy acres are planted with an excellent assortment of Vines, suitable for the manufacture of the best Wines; the whole of the ground has either been trenched by hand, or worked with the subsoil plough to a depth of about eighteen inches, and kept in excellent order; in fact the attention paid by Mr. de Dollon to the formation and maintenance of his Vineyard was considered deserving much credit, and everything connected with his establishment displayed great judgment.

The Tabilk Vineyard Company's Grounds on the Goulburn, were visited; the greater part of the Vineyard was on gentle, undulating ground, with slopes towards the river, or towards a magnificent lagoon, winding through the whole section. Soil is a sandy clay, well adapted for Vine culture.

Sixty-six acres have been planted with cuttings during the past season; and besides this, ten acres are kept as a nursery, where already are some 800,000 young Vines, ready to transplant when necessary. Yet there are signs of mismanagement which could not be passed over by the Judges,—the nursery has been trenched eighteen inches, whilst the Vineyard is only ploughed to a depth of seven to nine, far too little in a hot climate and in soil, which in many places contained a large per centage of clay, and likely to suffer much from want of rain; thus, though in some places the plants are vigorous enough, in less favoured spots they have made little or no

progress. There has also been a want of judgment in keeping varieties distinct, an evil which it will take a long time to remedy.

On the magnificent estate of Messrs. Castella and Anderson, at Yering, on the banks of the Yarra, the Judges found an area of about fifty acres planted with young Vines, most of which had been there only one season.

Messrs. Castella and Anderson have chosen a slight elevation, having chiefly an E. or N.E. aspect. An extensive flat, covered during the winter and spring with water, stretches from the foot of this hill to the Yarra. Really gigantic works for draining this and several other similar localities have been undertaken, above ten miles of drains, averaging from six to fifteen in width, having been finished. The soil of the vineyard is a light but rich one, of a chocolate colour, with gravel resting on clay underneath; the whole has been ploughed with subsoil ploughs to the requisite depths, being sixteen to eighteen inches. The number of sorts cultivated in this vineyard are but small, but such only had been chosen as were known to yield large crops of grapes and good wines. The vines are planted with great regularity, in rows four feet apart, the greatest possible care having been taken not to intermix the sorts. Mr. Castella intends to substitute the horsehoe for the two-pronged fork hoe, used by him now in working his vineyard. A nursery in another part of his grounds contains a great variety of sorts of well-rooted young vines, imported direct by Mr. Anderson from some of the most famous wine-producing districts of France. These and a number of good sorts raised from cuttings out of his own vineyard, will be planted during the season in the vineyard, which will be enlarged for their reception. Amongst Captain Anderson's manifold importations, is a complete winepress, constructed after the latest improved method; a mill for breaking the berries, previous to their being pressed, and all the other apparatus required in a perfect establishment for making and storing wines. These various machines, though doubtless too costly for the vigneron who does not intend to work on so extensive a scale as Messrs. Castella and Anderson do, will serve as models for all, as they will show the various manipulations necessary for the preparation of wine, before and during the pressing. Ample room is provided for all these machines in a separate presshouse, in immediate connection with the temporary cellar. The practical vigneron will easily learn to substitute less expensive and yet serviceable machines for those employed by Messrs. Castella and Anderson.

To these last named gentlemen the judges awarded, after due consideration, the Argus Prize Cup, they having shown the greatest skill in the formation and general management of their vineyard, besides working the same with the greatest possible economy compatible with the proper success of such an undertaking.

THE BLIGHT ON THE SWEETWATER.—This Grape has very small roots, but produces enormous canes with a large quantity of pith in them; it is thought that the blight might be prevented or mitigated if the Sweetwater were grafted on a kind producing stronger roots.

Societies.

Horticultural Improvement Association.

The Spring Exhibition of this flourishing Society, took place in the large Hall of the Mechanics' Institute, at Geelong, on Thursday, the 10th of October, and was in every way a great success. The Committee had evidently done all in their power to make it so, and we only regret that the unfavorable weather which prevailed during the Exhibition prevented so large an attendance of visitors as to reward them for their exertions.

It was gratifying on entering the Show room to notice the taste displayed in its decoration with banners, pot plants, and foliage of all kinds; and the very beautiful floral design sent in by Mr. Wyatt of Ryansford, was alone most attractive; certainly the choicest thing of the kind we remember to have seen here about.

The Exhibition had been postponed, in consequence of the lateness of the season, from the 19th September, yet we were scarcely prepared to find so many entries, or of such excellence. The Green-house plants exhibited by Mr. William Barton, gardener to the Hon. J. F. Strachan, were remarkably good; amongst them were nice plants of *Rhododendron jasminiflorum*, *Streptocarpus Rexii* and *Chripedium pictum* (ladies slipper); the Cinerarias and Calceolarias from the same gentleman's garden were very fine.

The Cinerarias contributed by the President, Alfred Douglass, Esq., included "Lady Agnes," "Ne plus ultra," "Morning Star," "Formosa," "Lady Pera," &c., and were well grown and deservedly much admired.

Mr. William Sangster, (gardener to John Brown, Esq., of Como,) kindly brought down a splendid collection of cut flowers and roses, which the Judges considered specially worthy of notice. Mr. Ferguson, gardener to the Hon. J. H. Brooke, of Heidelberg, also brought a seedling Pansy, "Young Australian," which was highly commended.

The Roses and Pansies of Mr. Thomas Acton, of East St. Kilda, were also highly thought of by Judges as well as Visitors.

The Conifers and Taxads (86 in number) sent in by Mr. Charles Wyatt, reflect the greatest credit on that gentleman and his gardener; all were in fine condition and many particularly choico. This collection was an important feature in the Exhibition.

In the collection of Ferns exhibited by Miss Stretch, were some good pots of English species, (*Scolopendrium vulgare* and others). Mr. Mitchell's were all Victorian.

Mr. Bunce, of the Botanical Gardens, also contributed largely to the Exhibition, covering some 25 feet of the table with his exhibits, besides allowing a portion of his plants to be employed to ornament the building. The Judges highly commended Mr. Bunce's collection.

But we must cease particularising exhibits, and refer our readers to the prize list. We will merely repeat that the Society has again achieved a great success, their Exhibition having surpassed anything of the kind previously held in Geelong.

We understand that the Society contemplates offering prizes in future for the taker of the largest number of prizes in each class.

JUDGES.—Messrs. Farquharson Smith (Smith & Adamson), William Ferguson, and William Sangster.

Class A.—POT GROWN PLANTS, IN FLOWER.

1. Collection of six stove or green-house Plants
First prize, Hon. J. F. Strachan.
2. Collection of three ditto, ditto.
First prize, Hon. J. F. Strachan.
Second " W. Wyeth.
3. Single specimen, ditto, ditto.
First Prize, Hon. J. F. Strachan.
4. Best collection of Plants.
First prize, Hon. J. F. Strachan.
Second " W. Wyeth.
Honorary Certificate, King & Son.

8. Best three Azaleas, varieties.
First prize, Hon. J. F. Strachan.
9. Best specimen Azalea.
First prize, Hon. J. F. Strachan.
13. Six Calceolarias varieties.
First prize, Hon. J. F. Strachan.
16. Six Cinerarias, varieties.
First prize, Hon. J. F. Strachan.
Second " Alfred Douglass, Esq.
17. Three ditto, ditto.
First prize, Alfred Douglass, Esq.
20. Best specimen Mimulus.
First prize, Hon. J. F. Strachan.
Second " Charles Wyatt.
25. Three Primulas, varieties.
First prize, Hon. J. F. Strachan.
27. Three Petunias, varieties.
Second prize, W. Wyeth.
32. Nine Pansies, varieties.
First prize, Charles Wyatt.
33. Six Pansies, varieties.
First prize, Charles Wyatt.
34. Three Geraniums, varieties, florist's flowers.
First prize, Hon. J. F. Strachan.
39. Three Pelargoniums, varieties, florist's flowers.
First prize, William Wyeth.
39. Three Fuschias, varieties.
Second prize, William Wyeth.
41. Best specimen Fuschia, light.
First prize, King & Son, Barwon Terraco.
Second " William Wyeth.
47. Three Begonias, varieties.
First prize, Hon. J. F. Strachan.

Class B.—POT GROWN PLANTS, IN OR OUT OF FLOWER.

48. Collection of Conifers and Taxads.
First prize, Charles Wyatt. (A very excellent collection, deserving great credit.)
50. Collection of Ferns.
First prize, Miss Stretch.
Second " George Mitchell.
52. Specimen Fern.
First prize, A. S. Robertson, Esq.
54. Specimen Lycopod.
First prize, Hon. J. F. Strachan.
55. Best six Plants for beauty of Foliage.
First prize, Hon. J. F. Strachan.
Second " Charles Wyatt.
56. Best three plants for beauty of Foliage.
Second prize, Charles Wyatt.
57. Best New or Rare plant.
First prize, Hon. J. F. Strachan.
Second " Charles Wyatt.

Class C.—CUT FLOWERS.

58. Twelve Anemones, varieties.
First prize, Charles Wyatt.
Second " King & Son.
59. Six Anemones, varieties.
First prize, Charles Wyatt.
60. Twelve Ranunculus, varieties.
First prize, Charles Wyatt.
Second " James Anderson.
61. Six Ranunculus, varieties.
First prize, Charles Wyatt.
Second " Messrs. King & Son.
62. Twelve Tulips, varieties.
First prize, Joseph Lewis.
63. Six Tulips, varieties.
First prize, Joseph Lewis.
68. Collection of Bulbs and Tubers, varieties.
First prize, Joseph Lewis.
69. Twelve Pansies, varieties.
First prize, Charles Wyatt.
Second " King & Son.
70. Six Pansies, varieties.
First prize, Charles Wyatt.
Second " King & Son.
- 74a. Twelve Verbenas, single trusses.
First prize, J. Buckley, Esq.
Second " Charles Wyatt.
- 74b. Six Verbenas, single trusses.
First prize, Charles Wyatt.
Second " William Wyeth.
- 74c. Twelve Stocks, varieties.
First prize, King & Son.
Second " Charles Wyatt.
Honorary certificate to Joseph Lewis for Stocks of superior quality.
75. Collection of Stocks.
First prize, William Wyeth.
76. Collection of Cut Flowers.
First prize, A. S. Robertson.
Second " Charles Wyatt.
Honorary certificate to Joseph Lewis.
Mr. Wyatt's collection was considered by the Judges the best arranged; but that of Mr. Robertson contained the greatest variety.
79. Hand Bouquet.
First prize, William Wyeth.
Second " Charles Ives.
80. Table Bouquet.
First prize, J. Buckley, Esq., per John Durran.
Second " Mr. Charles Ives.
Mr. Charles Wyatt and Mr. Joseph Lewis also received honorary certificates for quality of the flowers in their Exhibits.

81. Design in Cut Flowers.
First prize, Mr. Charles Wyatt. Deserving special notice.
82. Bouquet of Wild Flowers.
Second prize, George Mitchell.

EXTRAS.

Collection of Cut Flowers.—Thomas Adcock. (Deserving special mention.)
Collection of Pansies.—Charles Wyatt. (Commended.)
Collection of Ranunculus.—Charles Wyatt. (Commended.)
Collection of Cacti.—Thomas Adcock. (Commended.)
Seedling Pansy.—William Ferguson. (Specially commended.)
Miscellaneous collection of Plants.—Thomas Adcock. (Specially commended.)
Design for Flower Garden.—First prize, Alfred Matthews.)
Large collection of Pot Plants, sent in by D. Bunce, from the Botanic Gardens. (Highly commended by the Judges.)
Three Geraniums.—Charles Wyatt. (Honorary certificate.)
Collection of Pansies &c.—Thomas Acton. (Commended by the Judges.)
Double Wallflowers.—Second prize, Thomas Jeffrey.
Collection of Plants.—Second prize, G. Mitchell.
Collection of Plants.—First prize, William Wyeth.
Collection of Herbs.—Charles Ives. (Honorary certificate.)
Plants in illustration of the natural orders.—First prize.
Exhibited by Mr. Batson of Herne Hill.
Collection of Roses.—Mr. Sangster.
Collection of Cut Flowers.—Mr. Sangster. (Both considered worthy of special notice.)
To Thomas Cain, of Belmont, whose entries came too late, and whose numerous exhibits of Flowers, Bees, and Vegetables, covered a large space, the judges awarded a First prize for the collection.

JUDGES.—Messrs. Charles Farnes, J. H. Fanning, and Thomas Adcock.

Class D.—FRUIT.

83. Best collection of Fruit.
Second prize A. Mackenzie.

Class E.—VEGETABLES.

85. Best dish Seakale.
Second prize, King & Son.
86. Six Cauliflowers.
First prize, King & Son.
Second " Charles Wyatt.
88. Six Cabbages.
First prize, King & Son.
89. Asparagus.
First prize, King & Son.
90. Dish of Peas.
First prize, King & Son.
Second " Joseph Lewis.
91. Broad Beans.
Honorary certificate, Charles Ives.
92. Kidney Potatoes.
First prize, King & Son.
Second " James Anderson.
93. Round Potatoes.
First prize, King & Son.
Second " Mr. Henry Pierce.
94. Six Carrots.
First prize, King & Son.
Second " Joseph Lewis.
98. Red Beet.
Second prize, Charles Ives.
99. Silver Beet.
Second prize, Charles Ives.
100. Six Leeks.
First prize, King & Son.
104. Cabbage lettuces.
First prize, King & Son.
106. Rhubarb.
First prize, King & Son.
108. Collection Garden Produce.
First prize, J. Buckley, Esq., per John Durran.
Second " King & Son.

Amateurs' List.

Class F.—POT GROWN PLANTS, IN FLOWER.

110. Specimen Stove or Green-house Plant.
First prize, George Mitchell.
118. Single specimen Cineraria.
Honorary certificate, George Mitchell.
124. Best Cactus.
First prize, Miss Stretch.
125. Three Pansies, varieties.
First prize, Thomas Jeffrey.
Second " George Mitchell.
126. Three Geraniums, varieties.
Second prize, George Mitchell.
127. Three Pelargoniums.
First prize, Miss Stretch.
129. Best Fuschia.
First prize, Miss Isabella Primo.
Second " George Mitchell.

Class G.—CUT FLOWERS.

134. Three Anemones, varieties.
First prize, W. Cross.
Second " Thomas Jeffrey.
135. Three Ranunculus, varieties.
First prize, Thomas Jeffrey.
Second " Mr. W. Cross.

136. Three Tulips, varieties.
First prize, George Mitchell.
Second „ Thomas Jeffrey.
137. Three Pansies, varieties.
First prize, W. Cross.
Second „ Thomas Jeffrey.
138. Three Rosas, varieties.
First prize, Thomas Jeffrey.
139. Three Verbenas, varieties.
Second prize, W. Cross.
140. Six Stocks, varieties.
First prize, Thomas Jeffrey.
141. Collection Cut Flowers.
First prize, Thomas Jeffrey.
Second „ George Mitchell. } Highly commended
by the Judges.
142. Hand Bouquet.
Second prize, Thomas Jeffrey.
143. Table Bouquet.
First prize, Miss Stretch.
Second „ Thomas Jeffrey. } Highly commended.

Class H.—VEGETABLES.

144. Three Cauliflowers.
First prize, Mrs. Ware.
Second „ James Anderson.
145. Three Cabbages.
First prize, Mrs. Ware
146. Asparagus.
First prize, George Mitchell.
148. Best Dish of Potatoes.
First prize, James Anderson.
Second „ George Mitchell.

EXTRAS.

Potatoes.—Mr. Powney. (Honorary certificate.)

The Monthly meeting was held at the Mechanics' Institute, on Wednesday evening, the 16th October. Mr. George Mitchell in the chair. The minutes of the previous meeting having been read and confirmed, the following gentlemen were proposed as members:—Messrs. H. B. Lane, A. Macwilliams, A. Benari, Thomas Marshall, James Dobson.

A packet of Ceylon seeds presented by Mr. B. Wilkins, chemist, of Great Malop-street, was distributed amongst the members, and the Secretary was requested to convey the thanks of the Association to that gentleman for his valuable donation.

A discussion took place on the paper on "Budding," read at the last monthly meeting, in which Messrs. Powney, Neilson, Adecock, and others, took part, and Mr. H. Adecock replied. The thanks of the meeting were voted to Mr. Adecock for his interesting paper.

Mr. Thomas Adecock, of Kardinia, then read a paper on "The Cultivation of the *Dahlia*," which appears elsewhere in our columns.

Some beautiful seedling Verbenas were laid on the table by Mr. Neilson, as well as the splendid *Dianthus Hedwegii*. Some New Zealand Flax was also exhibited as a tie for budding purposes, for which it was considered better adapted than any other article hitherto used.

Mr. William Barten, gardener to the Hon. J. F. Strachan, promised a paper on the "Cultivation of the Pelargonium," for the next meeting of the Association, on Wednesday, the 13th November.

Ballarat Horticultural Society.

THE second monthly meeting of this Society was held on the 7th instant, at the Mechanics' Institute. Mr. William Appleby occupying the chair. There was a fair number of members present, and in order still further to promote the objects of the Society, and to induce a regular and fuller attendance at the monthly meetings, the Committee determined upon awarding prizes for any new or rare seedling, or any other Horticultural production exhibited by members.

Mr. James Duncan, junior, Nurseryman, read an Essay on "Planting Street Gardens," containing many useful suggestions as to the various sorts of Flowers, Shrubs, &c., and the disposition of the same so as to produce the greatest effect within the most limited space, &c. The object of these meetings being to promote Horticulture generally, and with a regard to the mutual improvement of the members in its several branches, a discussion on

the merits of the essay was introduced in which several members joined.

The interest of the meeting was considerably increased by the exhibition of several fine specimens of pot and cut Flowers, amongst which we may mention, *Franciscea latifolia*; *Azalea Indica-splendens*; *Columnea scheidiana*; *Streptocarpus polyantha*; a handsome *Erica*; several beautiful varieties of *Cineraria*, together with a collection of cut blooms of Parrot tulips, exhibited by Messrs. Lang and Elliot, which commanded general attention amongst the members present.

There were also exhibited by Mr. Geo. Smith some fine specimens of *Ranunculus* and *Auricula* (cut blooms,) a *Lachenalia pendula*, and a variegated Geranium, entitled "the Mayor of Melbourne."

We must not omit to mention a bunch of cut blooms of *Gladiolus tristis*, exhibited by Mr. Laidlaw, as also a fine specimen of *Cactus flagelliformis* in full bloom, shown by Mr. William Appleby, V.P.

A vote of thanks to Mr. Duncan for the able manner in which he had treated the subject of Planting Street Gardens, completed the business of the evening. Mr. George Smith having promised an essay on "Cottage Kitchen Gardens" for the next meeting.

Beechworth Agricultural and Horticultural Society.

We noticed in our last issue that a meeting had been held in the Beechworth district, for the purpose of initiating a horticultural society; and a public meeting has since been held (3rd October), when it was decided that an agricultural branch should be added, and the society be called as above. From long experience in many districts, we regret this union of interests so entirely distinct; but we would suggest that separate committees be elected for each department, composed of men interested in it. It is as absurd to entrust the management of horticultural matters to agriculturists, as matters strictly appertaining to the farm to gardeners, practical or amateur.

His Honor Judge Cope was elected President; the Rev. C. Howard, vice President; and Mr. Loch, Secretary.

THE MANUFACTURE OF TOBACCO IN FRANCE.

The processes pursued at the Paris Imperial tobacco manufactory, between the Quai d'Orsay and the Rue de l'Université, are on a very large scale. The leaves of the plants are first cleared from the stems and ribs by women, these hard parts being afterwards converted into coarse paper. The leaves are then wetted with a solution of sea-salt, which contributes to preserve them. After being coarsely chopped, the tobacco is laid in heaps to ferment, during which operation it attains a high temperature, and, like green hay, would take fire, if air were not admitted into the interior of the mass. The fermentation generally occupies five or six months, and the quantity simultaneously undergoing this process in different stages often amount to 400,000 kilogrammes. When the fermentation is completed, that portion of the tobacco intended for snuff is ground, and then slightly fermented again. The snuff, on leaving the mill, is passed through several sieves successively, being carried from one to the other by machinery. It is then sorted into various qualities, but not so many, nor subjected to peculiar modes of treatment as in old times, when rappee was the coarse, rasped

stuff, and when "old Paris," e renne, and some recondite mixtures obtained their nasal renown. As to tobacco for smoking it is pressed between two planks, and thus brought under a sharp knife, like a chaff-cutter, which divides it into fine shreds. Another part of the manufactory is devoted to the preparation of tobacco for chewing, or pigtail, which is spun into cords of different thickness by the same means as ropes are made. Two spacious rooms are entirely devoted to the manufacture of cigars, in which women only are employed. Each has a little table to herself, and is paid according to the number she makes. Another room is set apart for making cigarettes. The Imperial tobacco manufactory employs nearly 1,500 women and girls, and 400 men and boys.—*Dublin University Magazine*.

SEA WEED.

M. E. Lagout has presented a report to the Paris Academy of Sciences, on the employment of seaweed, applied in layers against the thin walls of habitations, to prevent sudden variations in and excess of temperature. The marine algæ, such as sea-wrack, may be termed a sea-wool, which has this advantage over ordinary wool, that it does not harbor insects, and undergoes no change by dryness or humidity, provided it be not exposed to the solar rays; in that case it undergoes a complete transformation; from being brown and flexible, it becomes white and almost rigid. In the dark, on the contrary, it is unchangeable, unfermentable, imputrescent, un-inflammable, and unattackable by insects. At first it has the objection of being hygrometric, but a single washing in fresh water removes the salt, and then its properties become so beneficial, that a celebrated architect has styled it the "flannel of health for habitations." It has been applied successfully between the tiles and ceiling of a railway station; also in a portable house intended for the use of officers at the Camp of Chalons; also double panels, the immediate space being filled with seaweed, have been prepared for the construction of temporary barracks at the Isle of Reunion.

The consulting committee of Public Health, the Society of Civil Engineers, the council for Civic Structures, &c., have expressed their approval of the judicious employment of the marine algæ, and state that the popularisation of this process will be of great service in dwellings, especially in those of the humbler class, as it renders them both more agreeable and salubrious. A ton is sufficient for upwards of a hundred square yards of roofing.

CULTIVATION OF COTTON.—Mr. Walter Hill, the superintendent of the Botanical Gardens, Brisbane, lately contributed to one of the local journals the following particulars relative to the mode of cultivating the plant:—"In compliance with your request respecting the cultivation of the *Gossypium herbaceum* (or Sea Island cotton), I have much pleasure in making you acquainted with the results of two experiments made in our garden. In the months of September, 1857 and 1858, half an acre of ground, on an open situation, of a sandy loamy soil, was selected and dug one spade deep for the cultivation of the Sea Island cotton plant. Previously to planting, the seeds were steeped in water during some hours; they were afterwards rolled in sand, in order entirely to separate them from each other. This process very much accelerates the germination. In the month of October, the seeds were planted in

rows, four feet from each other; two or three seeds were dropped in each hole, because some of them are liable to rot in the ground; the seeds were then covered with earth one inch thick. The plants made their appearance in about eight days. At about the end of four weeks the ground was carefully weeded, and those plants which were the weakest were drawn, and only one plant left in the hole. The ground was frequently hoed and kept free from weeds. When the plants were about five months old they showed signs of flowering. The stems and branches were thinned, and about an inch was broken off from the end of each shoot to determine the sap of the capsules. The time of the seeds coming to maturity was little more than six months after they had been planted. This period is, however, well indicated by the spontaneous bursting of the capsule, or seed-pod. In gathering the fibre, care was taken to withdraw it from the capsule,

leaving the empty husks upon the plant. This work was always performed as soon as possible after the fibre displayed itself, for long exposure to the sun injures its color. The process of gathering lasts to the middle of July. The fibres and seeds of 100 were kept separate in gathering each season. Each plant produced eleven ounces of seed, and four ounces of fibre, yielding at the rate of 1,871 lbs. 6 oz. of seed, and 680 lbs. 8 oz. of fibre per acre. Samples of the fibre were forwarded to England, with the view of testing its quality and value. The report received stated the fibre appeared to the eye to be of excellent quality, and its value would be from 2s. to 2s. 6d. per lb. in London. I may state, the Sea Island cotton-plant is a perennial here, and improves in quantity and quality for two or three years, after which period it will be liable to degenerate. I may also mention that this plant is of easy cultivation, and quite within the scope of

any ordinary man's ability who can use a spade or hoe. The most important operation is the picking of the fibre, as the pods ripen and open out, and that can easily be performed by the younger branches of a man's family."

SUBSCRIPTIONS received since our last issue:—

	£	s.	d.
Messrs. Foster & Carr	0	14	0
Mr. Paul de Castella	0	8	0
" Floyd Jones per Mr. Paul de Castella ...	0	8	0
" George White	0	7	0
" James Henry	0	8	0

SCALE FOR ADVERTISING.

	s.	d.
Six Lines or Less	3	0
Every additional Line	0	3

Or at the rate of 4s. 6d. per inch (12 lines.)

LADY JULIA PERCY ISLAND CAVE GUANO.

TO FARMERS, HORTICULTURISTS, AND VIGNERONS.

THE following REPORTS and ANALYSES are submitted by the Undersigned:—

DR. MACADAM'S ANALYSIS.

Government Analytical Laboratory,
Melbourne, March 26, 1861.

I hereby certify, that I have submitted to Chemical Analysis a sample of Guano from Lady Julia Percy Island, handed me for examination. The Guano had a dark brown color, a strong animal odour, and was readily crushed into a state of division, excellently adapted for its equable and economical distribution over the soil.

Its composition on analysis was as follows, in 100 parts by weight:—

Moisture	20.01
Organic (animal) matter, containing traces of free Ammonia ...	21.31
Soluble Salts, principally Alkaline, Sulphates, and Chlorides ...	10.82
Phosphates of Lime and Magnesia, (bone ash)	39.50
Carbonate of Lime and Oxide of Iron	3.44
Silicious or sandy matter	4.92
	100.00

The composition of this Guano indicates that the soluble Salts and Ammoniacal matter have been removed by the action of rain to a less extent than is usually the case with Australian Guanos. Indeed, I have not yet met with a Guano from those shores so rich in these valuable ingredients. The proportions of Phosphates of Lime and Magnesia (bone ash) is also high, the mean per centage being about 40. The proportions of sand and other insoluble matter is greatly under the average. I fully anticipate that Agriculturists will have every reason to be satisfied with the results obtainable from the use of this Guano.

JOHN MACADAM, M.D.,

Analytical Chemist to the Government.

MR. KRUSE'S ANALYSIS.

187, Bourke Street East, Melbourne,
February 23, 1861.

Sir,—I have submitted the sample of Guano from the Lady Julia Percy Island handed to me by you, to a careful Chemical Analysis, and now beg to hand you the result of the same.

Ammoniacal Salts or decayed animal or Azotised Organic matter ...	16.56
Phosphates of Lime and Magnesia ...	48.19
Soluble Chlorides, Phosphates, and Sulphates	8.25
Water	22.60
Stony matter	4.40
	100.00

This analysis will show that this Guano contains nearly as much Ammonia in different forms as Peruvian, has more of the Phosphates, and contains only a small porportion of sand or stony matter; and that it is applicable not only for grain but for all kind of crops, and must have a better effect than the latter on cereals, on account of the greater quantity of Phosphates this Guano contains.

I consider this Guano to be a fertiliser of the highest degree, far superior to the Flat Island Guano, and I believe, almost equal to the best Peruvian.

I am, Sir,
Your most obedient Servant,
JOHN KRUSE,

Analytical Chemist to the Royal Medical Board of Hanover.

MR. GIBBON'S ANALYSIS.

5, Collins Street East, Melbourne,
March 26, 1861.

After a minute examination of a sample of Guano from Lady Julia Percy Island submitted to me, I have to report as follows:—

CHARACTER.—The sample is a true Guano, consisting almost entirely of animal excrements, and of the substances usually found with them in natural deposits. It is of a moist and clammy, but pulverulent texture, and contains abundance of filaments of yet undecomposed Organic matter. The smell is strongly excrementitious, and when decomposed by heat, it evolves copious ammoniacal fumes. It is, in agricultural language, "well rotted."

Its reaction is faintly alkaline.

Its specific gravity in the dry state, is

CONSTITUTION.—A detailed analysis gives the following results:—

In 100 parts of the Dried Guano, (26.18 of moisture having been separated.)

Organic Matter	27.07
(In great part nitrogenous, and capable of evolving ammonia.)	
Silica	5.66
Phosphates of Lime and Magnesia ...	51.99
Other Earthy Salts	3.22
Soluble Salts	12.06
	100.00

CONCLUSIONS.—As a conclusion, from the examination I may safely recommend this Guano as an excellent manure, being of opinion that its character and constitution alike tend to render it valuable.

There is a minimum of silica. The phosphates are present in large quantity. The salts, earthy and soluble, are just such as are most valuable in soils; and the large amount of animal and other organic matter will enable it to bear favorable comparison with the other Guanos in the market.

WM. SYDNEY GIBBONS,
Analytical Chemist, &c.

R. H. BULLOCK, AGENT, GEELONG.

N.B.—Bayers can be supplied from the Bulk Heap, and see it bagged.

THE VICTORIAN Agricultural & Horticultural GAZETTE.

UNDER THE DISTINGUISHED PATRONAGE OF HIS EXCELLENCY
THE GOVERNOR SIR HENRY BARKLY, K.C.B.



AND THE AGRICULTURAL AND HORTICULTURAL SOCIETIES OF
THE COLONY.

VOL. V.—No. 13.

DECEMBER 1861.

7s. per Annum. } SIXPENCE EACH COPY.
8s. by Post.

It is with no ordinary regret, that after having piloted the "Gazette" for a period of five years through many and great difficulties, we are now, in justice to the Proprietors, compelled to intimate to our Subscribers, that with the present number, the publication of it will cease; so large now has become the amount of overdue Subscriptions, and so enormous the expense of collecting them, that for the present at any rate, we have no alternative. We cannot, however, part from our many kind friends and correspondents without expressing sincere thanks for their co-operation and assistance, by which the "Gazette" has been made the first journal of its class in the Australian Colonies. In conducting it, our aim has ever been to treat only of such subjects as were calculated to prove of real and lasting benefit to our readers,—able writers have discussed new discoveries in Agricultural and Horticultural Chemistry; proceedings and Exhibitions of all Victorian Societies have been regularly recorded, and the volume now concluded contains the whole of the transactions of the Society lately established in the Western District for the improvement of Horticulture, as well as the Papers read before that Society by its Members, alone of great value, emanating from, and containing the experiences of practical men. To the new as to the old Colonist therefore the five volumes of the "Gazette," already published, can safely be recommended as containing sound, and accurate information on almost every subject connected with Agriculture and Horticulture in the Colony of Victoria.

ADVERTISEMENTS and SUBSCRIPTIONS are received for this "Gazette" by GEORGE STREET, Colonial Newspaper Office, 30, Cornhill, London, E.C.

Vine Culture!!

MR. BATSON'S Essay on "VINE CULTURE," in the August number of the "Gazette." Price, 6d.

Horticultural Improvement Association.

THE ANNUAL GENERAL MEETING

TO receive the REPORT OF THE COMMITTEE for the past Year, and for the

ELECTION OF OFFICE BEARERS,

Will be held at the MECHANICS' INSTITUTE,

ON WEDNESDAY, 10th December,

At 7 o'Clock p.m.

Only those Members will be allowed to vote whose Subscriptions have been paid.

SAMUEL HANNAFORD,
Honorary Secretary.

Flemington Bone Mills,

Established—1855.

Superphosphate of Lime £10.

Bone Dust £6 10s.

Per-Ton, in bags, delivered in Town.

Orders by Post to

J. MACMEIKAN & CO.,

FLEMINGTON Bone Mills, or any of the undermentioned Agents, will have prompt attention.

AGENTS:

W. Law and Co., at their new Warehouse, 118, Swanston Street, between Little Bourke and Lonsdale Streets, Melbourne.

Browne & Reid, 10, Collins-street East, Melbourne.

Tod, Alexander & Co., Gertrude-street, Collingwood.

James Murdoch, 288, Brunswick-street, Collingwood.

W. J. Wood, Seedsman, above Toorak Hotel.

Charles Stone, Central Brighton.

James Moss, near the Red Lion, Hawthorne.

Child and Price, Dispensary, Brunswick.

John Davison, Malop-street, Geelong.

David Tesson, Moonee Ponds.

H. G. Powell, Seedsman, High-street, Kyneton.

G. W. Glass & Co., Seedsman, Market-street, Castlemaine.

George Dunbar, Seedsman, Dandenong Hotel, Dandenong.

Flower and Garden Seeds.

TO NURSERYMEN, GARDENERS, FLORISTS AND OTHERS.

THE Undersigned have for sale, small assorted cases Flower and Garden Seeds, packed expressly for this country, by PETER LAWSON & SON, Edinburgh.

CALLENDER & CO.,

33, KING-STREET, MELBOURNE.

Correspondence.

To the Editor of the Agricultural and Horticultural Gazette.

Warrnambool, 8th Nov., 1861.

Sir,—In your last number of the 31st ultimo, there is an article headed "Extirpating Sorrel," and enquiring whether sowing with Clover, &c., and leaving for Hay for two years, would drive it out.

For the information of those who are troubled with this weed, I beg to state, that if White Clover be sown on land foul with Sorrel, and stocked with sheep for a couple of years, the Sorrel entirely disappears; sheep eat it greedily and thrive upon it, and taking it as they do in preference to Clover, they keep it down and prevent its seeding, allowing the Clover to spread well over the land and choke the Sorrel.

My experience is confined entirely to moist districts, such as this and the Western part of Tasmania, in both which places Clover thrives luxuriantly. Whether it would do well on the Barrabool Hills I cannot say, but if it would, the farmers there would find it more profitable to lay down a portion of their land and fatten sheep for the butcher, than continue to grow Grain and Hay crops year after year, till their lands are too much exhausted to bear a decent crop.

Let some enterprising farmer there try a paddock for a year or two, and then see if the succeeding crops of Grain do not more than compensate him.

I am, &c.,
SUBSCRIBER.

"JUMPERS" IN HAMS.—As soon as hams are dry from the smoking-house, before the time of flies has come, wash them over with thick whitewash—the side with the skin on is protected sufficiently by it; when dry, wash them over a second time. A third and fourth coat of white-wash may be necessary, until a solid covering without cracks is formed, which is security against all flies. The whitewash will prevent the hams becoming dry; it has only to be scraped off well before boiling. Some persons sew the hams in calico bags, but the whitewash alone has by long experience been proved the best mode of keeping hams through the summer, and in this way the cook may constantly have them in sight, so that if by any accident the flies have got in she can at once use the only remedy, viz., to cook and eat.



Government Advertisements.

Department of Trade and Customs, Melbourne,
26th November, 1861.

Immigration Regulations.

NOTICE is hereby given, that there are several **PASSAGE WARRANTS AVAILABLE** under the regulations of 30th July last, for nominees born in England, Scotland, and Wales. Unless applications for these warrants are received prior to 15th December next for the whole of the proportion respectively unappropriated, and the deposit required by the regulations paid at the Immigration Office, King-street, Melbourne, or at the offices of the Receivers and Paymasters, or Assistant Immigration Agent (as the case may be) undermentioned:—

Assistant Immigration Agents—

Geelong
Portland
Port Fairy
Warrnambool
Port Albert

Receivers and Paymasters—

Ararat
Avoca
Back Creek
Ballarat
Beechworth
Castlemaine
Creswick
Dunolly
Hamilton
Maldon
Maryborough
Pleasant Creek
Raglan
Sandhurst
Inglewood

The balance will be issued for nominees from any portion of the United Kingdom upon receipt of the deposits specified by the regulations.

Vine-growers are informed that only £110 has been appropriated of the sum of £4,000 voted for the introduction of vine-dressers and others skilled in the manufacture of wine and oil, and the preservation of fruit.

(Signed) ROBERT S. ANDERSON,
Commissioner of Trade and Customs.

Tenders for the Service of 1862.

FUEL AND WATER.

TENDERS will be received until Noon on Friday, the 6th December, from persons willing to furnish supplies of Coal, Wood, and Water, in such quantities as may be required by the Government Storekeeper, on behalf of the Government (except for Railway purposes), during Twelve calendar months, commencing on the 1st of January, 1862.

The following is a schedule of the localities at which these supplies will be required:—

FUEL.

Coal—To be delivered at the various Government Departments in the Melbourne District (including Richmond, Collingwood, Prahran, St. Kilda, Emerald Hill, Sandridge, and Pentridge.)	N.S.W., screened, per ton of 2,240 lbs.
Ditto—To be delivered at the Penal Establishments, Pentridge and Collingwood, and at Richmond Barracks.	Smiths', ditto.
Ditto—To be delivered at Williams-town.	N.S.W., screened, ditto.
Ditto—To be delivered at the moorings in Hobson's Bay, on board s.s. Victoria, Penal hulks, or other vessels in the Government service.	N.S.W., screened, ditto.
Ditto—To be delivered on board Dredging Vessels employed on the Yarra.	N.S.W., screened, ditto.
Ditto—To be delivered in Geelong, at all the Government Departments.	N.S.W., screened, ditto.
Ditto—To be delivered on board Dredging Vessels at Geelong.	N.S.W., screened, ditto.
Wood—Cut in Billets, 2 feet: to be delivered at the various Government Departments in Melbourne, including Richmond, Collingwood, Prahran, St. Kilda, Emerald Hill, and Sandridge.	Per ton, 40 cubic feet.
Ditto—To be delivered at Williams-town, and on board vessels in Hobson's Bay.	Ditto.
Ditto—To be delivered in Geelong, at all the Government Departments.	Ditto.

WATER.

Fresh Water to be delivered at any of the Government Departments, Melbourne, where it may be required, at per load of 165 gallons.

Ditto—To be delivered at the Stockade, Collingwood, ditto (so long as required.)

Ditto—To be delivered at any of the Government Departments, Williamstown, ditto.

Ditto—To be delivered at the moorings in Hobson's Bay, on board Penal Hulks, or other vessels in the Government service, per tun of 252 gallons.

Ditto to be delivered in Geelong, at any of the Government Departments, per load of 165 gallons.

Tenders will be accepted or rejected separately, but the contracts for Fuel, Melbourne, must comprise the suburbs mentioned.

Printed forms of tender may be obtained from the Government Storekeeper, Melbourne; the Chief Harbor Master, Williamstown, and the Stipendiary Magistrate, Geelong, by whom also any information or explanation will be afforded to persons tendering.

No Tender will be entertained unless accompanied by a certificate from two responsible persons that they are willing to become bound as sureties in any sum not exceeding Five hundred pounds for the due fulfilment of the contract; and in the event of the Tender being accepted, the bond must be executed within ten days, failing which the contract will be again advertised or another accepted.

The names of the tenderers and their proposed sureties, together with their addresses, must be stated at full length.

All Tenders must be enclosed in a separate envelope, marked "Tender for —" (as the case may be,) and be deposited in the Tender Box at the Government Stores, King-street; or, if sent by post, they must be addressed to the Government Storekeeper, Melbourne.

The Government will not necessarily accept the lowest or any tender.

The decision of the Government will be made known on the 13th December, 1861.

CONDITIONS.

1. The articles to be of the best quality.

2. All orders for wood or coal under these contracts must issue from the Government Storekeeper's Department, excepting in the case of the *Victoria* or Dredging Vessels, the supplies for which are to be made on the order of the Officer in command.

For water, orders will be issued by the several Departments as it may be required.

3. Both fuel and water are to be delivered direct to the Departments requiring them.

4. The contracts entered into under this notice are not to be considered as being infringed or vitiated by any contracts made by the military commissariat or other departments of the public service.

5. All supplies of fuel, when delivered, must be accompanied by the order, which will be received by the Officer requiring it, and the order thus receipted must be rendered with the contractor's account.

6. The contractor, when delivering coal, will be bound to furnish scales and weights, in order that the quantities may be checked.

The contractor for wood will be bound to place it in stacks for measurement.

7. In the event of supplies ordered under these contracts not being delivered within forty-eight hours, it will be competent for the Government Storekeeper, should circumstances require it, to purchase the same at the risk of the contractor, from whose account any expense, over and above the contract price, will be deducted.

Supplies of coal for the *Victoria* are to be placed on board either by day or night, in quantities of not less than five tons per hour, reckoning from the time when the order is delivered to the contractor or his agent; supplies are to be delivered on board Steam Dredges, wherever the same may be employed, and on board Steam Tugs at any wharf or hulk selected by the contractor in Hobson's Bay or Geelong, as the case may be.

8. The Contractor will be required to prepare his own account monthly, in the prescribed form, and to present the same in a complete state, signed by the officer receiving the supply, to the Government Storekeeper, for payment at the Treasury or at the District Pay Office, as the case may be.

9. In the event of a difference of opinion between the contractor and the officer receiving the supply, as to the quality, the same is to be decided by a board of survey, composed of persons named by the head of the department, and the decision of the board is to be considered as final.

10. If the board shall decide that the article is not of proper quality, it must be immediately replaced by the contractor, failing which it will be procured elsewhere, and the extra expense, if any, will be charged as in clause 7.

11. If from any cause injury would accrue to the public service by waiting for a board of survey, the head of department, or officer in charge of station, will have the power to reject such articles as are obviously of inferior quality, it being understood that he will be responsible to the Government for so doing, and that the contractor must take back the rejected article, and supply good in its stead, failing which it will be procured elsewhere, and the extra expense, if any, will be charged as in clause 7.

12. A repetition of irregularity in the quantity or quality of the supplies, or of delay in delivering or replacing them when required, will subject the contractor, upon report from the Government Storekeeper, to such mulct, not exceeding one-fourth the amount of the monthly account, as the Government

may direct. It will also be in the power of the Government, upon such repetition, to terminate the contract forthwith.

13. It will be competent for either party to terminate the contract, by giving in writing a notice of three calendar months to the opposite party, it being understood that such notice can be given only from the first day of a month, and within the period for which the contract is made.

WILLIAM C. HAINES.

Treasury,
Melbourne, 22nd November, 1861.

DAHLIAS. DAHLIAS.



Kardinia Nursery, Geelong,

Established 1851,

T. A. desires to inform the public, that his choice Collection of DAHLIAS, comprising upwards of one hundred and twenty varieties, is now ready to send out; a descriptive list of which can be seen at Mr. Clarkson's, Seedsman.

Also, the SWEET POTATOE, red and white. This delicious vegetable succeeds well in this climate, is easily cultivated, and produced an abundant crop last season in my Nursery. For price, mode of culture, &c., apply as above, or to the Agents:—

Geelong—Mr. Clarkson, 8, Ryrie-street west.

Creswick—Mr. James Rogers, Auctioneer.

Beechworth—Mr. V. Rochlitz.

WILLIAM CLARKSON,

Seedsman and Florist,

(Agent for Mr. T. Adcock, Kardinia Nursery.)

KITCHEN GARDEN SEEDS, of new and approved sorts; also, a few novelties, all of a vigorous growth, (being tested.)

FLOWER SEEDS, comprising nearly 400 varieties, and many novelties.

HEDGE AND TREE SEEDS, see Catalogue.

LUCERNES, CLOVERS, GRASSES, MANGOLDS, &c., of every description, tested and proved previous to sale.

Vine Pruning Shears (varieties), Verge and Hedge Shears, and other sorts, Bass Mats, Cucumbers, Glasses, Knives, Garden Reels and Lines, Talties, Botanical Specimen Boxes, and Implements of every description for the Garden and Greenhouse or Conservatory. For a complete list see Catalogue.

Experienced Gardeners Recommended.

GRASS SEEDS,

FOR IMPROVING PASTURES AND FOR LAYING
DOWN LAND ANEW.

HANDASYDE, M'MILLAN & CO.,

Agricultural Seedsman,

DEVOTE every care to orders for Grass Seeds. They supply the kinds assorted for various purposes, soils, and localities. The sorts are put up separately when required, or mixed ready for sowing—the "light" seeds by themselves, and the "heavy" seeds in another parcel for the convenience of the sower.

Detailed Lists and other information on application. A Supplementary Catalogue of many Agricultural Seeds not hitherto introduced, now ready.

SEED WAREHOUSE,

60, ELIZABETH STREET.

R. U. NICHOLLS & CO.,
WHOLESALE AND RETAIL
Nurserymen, Seedsmen, and Florists,
62, MAIN ROAD, BALLARAT.

HAVE always on hand a good collection of—
Agricultural, Garden, and Flower Seeds.
Fruit, Forest, and Ornamental Trees.
Shrubs and Pot Plants, a good variety.

New American and Chinese Seeds.

THE Undersigned have just received from America a
consignment of the following New varieties of Seeds,
which are now on Sale:—

IMPROVED NEW YORK PURPLE EGG PLANT, and
Long Purple ditto.

Several CHOICE KINDS of CUCUMBERS, SQUASHES
and PUMPKINS.

ROCK or MUSK MELONS, including the Nutmeg, Pine
Apple, Yellow Canteloupe, Early Jenny Lind, Skillman's
Netted and Large Persian ditto.

DWARF OKRA and BENE.

NEW STRAWBERRY TOMATO, and eight other varieties.

WATER MELONS—Carolina, Ice Cream, Apple Seeded
and Mountain Sprout.

TOBACCO—Connecticut Seed Leaf, Kentucky, Maryland,
Havannah and Florida.

Also, from China, the celebrated

CHINESE CARPET GRASS, with four other choice and
fine sorts for Lawns, Cricket Grounds, &c.

W. LAW & CO.,
Wholesale and Retail Seedsmen, &c.,
118, SWANSTON STREET, MELBOURNE.

Agents for the Sale of Rooted Vines and Cuttings for the
Proprietors of the famed Yering Vineyard.

Northampton Nurseries,
THOMAS-TOWN, PRESTON.

MESSRS. B. & S. JOHNSON,

NURSERYMEN, SEED GROWERS, FLORISTS, &c.
beg to intimate that their Priced Catalogues of Trees,
Shrubs, Roses, Dahlias, Vegetable and Flower Seeds, &c., is
now ready, and may be had on application as above, or at
Shed A., No. 26, EASTERN MARKET, MELBOURNE.

Prices more in accordance with the times.
Wholesale and Retail.

Notice of Removal.

J. N. REYNOLDS
INTIMATES that he has removed to his new and extensive
premises,

VICTORIA SEED STORES,
35, SWANSTON STREET,
(Opposite Bank of Victoria.)

GENUINE GUANO.

FLAT ISLAND GUANO.

J. N. REYNOLDS

WOULD remind Farmers, Gardeners, and Others, that
he is the Sole Melbourne Agent for the above cele-
brated Manure, which he continues selling at

£5 5s. per Ton,

in large or small quantities.

VICTORIA SEED STORES,
35, SWANSTON STREET.

GUANO!

GENUINE PERUVIAN. Sole Agents
in Geelong—
SWANSTON, WILLIS & STEPHEN.

THE EUROPEAN ASSURANCE SOCIETY.

Empowered by Special Act of Parliament, 22 Vic., Cap. 25.

Chief Australian Office:

MELBOURNE—99, Collins-street West, opposite the Western
Market.

Geelong Agency:

Mr. BENJAMIN SCOTT, Moorabool-street.

Directors:

EDWARD BELL, Esq.
D. S. CAMPBELL, Esq.
F. A. WALSH, Esq.
W. T. MOLLISON, Esq., M.L.A.

Guarantee Department.

RATES of Premium determined according to the nature of
the situation for which security is required. If a Life
Assurance be effected, the guarantee premium will be reduced
in proportion to the relative amounts of guarantee and life.
When equal, the guarantee premium is only 9s. per cent.

Life Assurance Department.

Life Policies issued upon the faithful representations of
assurers are indisputable.

Three-fourths of the profits of the Society are divisible
among the policy holders on the "With Profits" Table of
Premiums.

Assurances are granted either with profits, or, at lower
rates, without profits.

Premiums may be paid in one sum, or by yearly, half-
yearly, or quarterly instalments. They are such as are
charged in Europe, and the lowest that can be adopted with
full security to the assured and to the Society.

Policies are not forfeited as in other Societies. When four
years payments have been made, the policy holder, if unable or
unwilling to continue paying, may receive a fresh policy in
exchange, equivalent to the then value of the premiums
already paid; or a cash payment in purchase of the policy.

Forms of Proposal, and every information, may be had by
applying to

MICHAEL O'GRADY,

Secretary, European Assurance Society,
99, Collins-street west, Melbourne; or to

BENJAMIN SCOTT,

Agent, Moorabool-street, Geelong.

Ploughs. Ploughs. Ploughs.

THE undersigned are now landing Messrs. Gray and Co.'s
celebrated best Light Two-horse Prize Ploughs, steel
mould boards, extra mountings, coulters, &c., complete.

HOLMES, WHITE & CO.,

Geelong.

Harrows. Harrows.

THE undersigned are now landing, ex "Morning Light"
and "Florine," from Glasgow, Messrs. Gray and Co.'s
celebrated Zigzag Angled Iron Harrows, two and three in
a set.

HOLMES, WHITE & CO.,

Geelong.

Seed Wheat.

FOR SALE, 350 Bushels of White Velvet Seed Wheat.—
Apply to

ALFRED DOUGLASS & CO.

Victoria Terrace, April 15, 1860.

Wheat and Oats.

THE Undersigned are prepared to receive Grain on
Storage, and make Cash Advances on the same.

ALFRED DOUGLASS & CO.

Victoria Terrace, Feb. 8, 1861.

JOHN EDEN,

Land Agent, Surveyor and Valuator, &c.,
24, RYRIE-STREET EAST, GEELONG.

HAS Farms to LET and SELL, from 40 to 500 Acres, on
very moderate terms.
N.B.—Conveyances and Leases effected; also, sums of
money to lend on real property, from £100 to £1000.

WILLIAM EDDY,

NURSERY AND SEEDSMAN, opposite the Bush Inn,
ELIZABETH-STREET, MELBOURNE.

Money to Lend.

GEORGE WRIGHT

HAS £4000 to Lend, in sums of £200, on approved
securities.



Boots for Stations.

THE Undersigned begs to inform Farmers and Settlers of
the Western District, that he has constantly on hand,
and for sale, a large shipment of both Colonial and English
made Boots, guaranteed of the best material and workman-
ship, at moderate prices. Parcels made up strictly to order,
and punctually forwarded.

SAMUEL HIGGOTT,

MANUFACTURER AND IMPORTER OF BOOTS,
60, Moorabool-street, Market-square, and 16, Malop-street
east, Geelong; and Main Road, Ballarat.

Church of England Hymn Books,

In Cloth.

A LIMITED number of copies of the Hymn Book have
arrived per ship "Maxwell."
Orders should be forwarded without delay to

HEATH & CORDELL,

Geelong.

On Sale,

B A N N S B O O K S.

Preachers' Books.

Prayer Books.

Bibles and Church Services.

MARS, issued by the S. P. C. K.

At English Prices.

HEATH & CORDELL.

For the Desk,

BIBLE, 4to, Morocco.

Prayer, 4to, Morocco.

Communion Service, Morocco.

Acts of the Imperial Parliament.

COMPANIES' CLAUSES Consolidation Act.

Waterworks' Consolidation Act.

Gas Works' Consolidation Act.

Railways' Consolidation Act.

THE UNION PRAYER MEETING HYMN BOOK
20s. per 100.

HEATH & CORDELL.

HOLLOWAY'S PILLS are pre-eminently re-
nowned for their cure of Asthma.—Mr. James
Judd, of Mitcham, had been for years afflicted
with Asthma, experiencing great agony upon
respiration, with violent cough; he had also acute
pains in his side. He tried every remedy, and
was advised by all classes of medical practitioners,
but his time, patience, and money were alike
thrown away. He at length had recourse to
Holloway's Pills, and, by persevering in their use
for a few weeks, obtained the most favorable
results, and became perfectly cured.

SUBSCRIPTIONS received since our last issue:—

	£	s.	d.
Mr. Strachan	2	0	0
„ Charles Grundy	0	8	0
„ E. Lankester	0	8	0
„ — Shaw	1	2	0
„ John Cumming	0	8	4
„ — Pettavel	0	4	0
Messrs. James Oddie & Co.	1	2	4
Mr. — Hassall	0	15	0
„ — Appleby	0	15	4
„ Neil Ross	0	8	0
„ W. Adeny	0	8	4
„ Thomas Bowker	1	0	0
„ — Belperoud	0	8	4
„ James Piper	0	8	4

School Drawing Models.

		£	s.	d.
1 SET Schroeder's Elements of Construction	1st size	0	2	6
2 Ditto	2nd „ at	0	4	0
2 Ditto	3rd „ at	0	6	6
1 Set Drawing Models		0	7	0
2 „ Geometrical Models	at	0	6	6
2 „ Deacon's Elements of Perspective	small, at	0	12	6
1 Ditto	large	1	17	6
1 Set Parochial Models		1	5	0

The above Invoice is offered at English Cost Price.

HEATH & CORDELL,
Geelong.

Violin Strings.

I NVOICE for Sale, containing—			
	£	s.	d.
24 bundles, 1st, at 4s. 4d.	5	4	0
12 „ 2nd, at 5s. 6d.	3	6	0
12 dozen, 4th, at 3s.	1	16	0
Case	0	2	6
Total	£10	8	6

HEATH & CORDELL,
Geelong.

Mining Acts.

AN ACT to limit the Liability of Mining Partnerships. Dated 18th September, 1860.

An ACT to facilitate the Formation of Mining Associations and to amend and extend the provisions of an Act passed in the Eighteenth year of the reign of Her present Majesty, intituled *An Act for the better Regulation of Mining Companies*, and to render certain Preferable Liens and Mortgages of Personality by Miners and Mining Companies valid without delivery, and for other purposes. Dated 4th June, 1858.

To be had of

HEATH & CORDELL,
Malop-street, Geelong.

LADY JULIA PERCY ISLAND CAVE GUANO.

TO FARMERS, HORTICULTURISTS, AND VIGNERONS.

THE following REPORTS and ANALYSES are submitted by the Undersigned:—

DR. MACADAM'S ANALYSIS.

Government Analytical Laboratory,
Melbourne, March 26, 1861.

I hereby certify, that I have submitted to Chemical Analysis a sample of Guano from Lady Julia Percy Island, handed me for examination. The Guano had a dark brown color, a strong animal odour, and was readily crushed into a state of division, excellently adapted for its equable and economical distribution over the soil.

Its composition on analysis was as follows, in 100 parts by weight:—

Moisture	20.01
Organic (animal) matter, containing traces of free Ammonia	21.31
Soluble Salts, principally Alkaline, Sulphates, and Chlorides	10.82
Phosphates of Lime and Magnesia, (bone ash)	39.50
Carbonate of Lime and Oxide of Iron	3.44
Silicious or sandy matter	4.92
	100.00

The composition of this Guano indicates that the soluble Salts and Ammoniacal matter have been removed by the action of rain to a less extent than is usually the case with Australian Guanos. Indeed, I have not yet met with a Guano from those shores so rich in these valuable ingredients. The proportions of Phosphates of Lime and Magnesia (bone ash) is also high, the mean per centage being about 40. The proportions of sand and other insoluble matter is greatly under the average. I fully anticipate that Agriculturists will have every reason to be satisfied with the results obtainable from the use of this Guano.

JOHN MACADAM, M.D.,
Analytical Chemist to the Government.

MR. KRUSE'S ANALYSIS.

187, Bourke Street East, Melbourne,
February 23, 1861.

Sir,—I have submitted the sample of Guano from the Lady Julia Percy Island handed to me by you, to a careful Chemical Analysis, and now beg to hand you the result of the same.

Ammoniacal Salts or decayed animal or Azotised Organic matter	16.56
Phosphates of Lime and Magnesia	48.19
Soluble Chlorides, Phosphates, and Sulphates	8.25
Water	22.60
Stony matter	4.40
	100.00

This analysis will show that this Guano contains nearly as much Ammonia in different forms as Peruvian, has more of the Phosphates, and contains only a small porportion of sand or stony matter; and that it is applicable not only for grain but for all kind of crops, and must have a better effect than the latter on cereals, on account of the greater quantity of Phosphates this Guano contains.

I consider this Guano to be a fertiliser of the highest degree, far superior to the Flat Island Guano, and I believe, almost equal to the best Peruvian.

I am, Sir,
Your most obedient Servant,
JOHN KRUSE,

Analytical Chemist to the Royal Medical Board
of Hanover.

MR. GIBBON'S ANALYSIS.

5, Collins Street East, Melbourne,
March 26, 1861.

After a minute examination of a sample of Guano from Lady Julia Percy Island submitted to me, I have to report as follows:—

CHARACTER.—The sample is a true Guano, consisting almost entirely of animal excrements, and of the substances usually found with them in natural deposits. It is of a moist and clammy, but pulverent texture, and contains abundance of filaments of yet undecomposed Organic matter. The smell is strongly excrementitious, and when decomposed by heat, it evolves copious ammoniacal fumes. It is, in agricultural language, "well rotted."

Its reaction is faintly alkaline.

Its specific gravity in the dry state, is

CONSTITUTION.—A detailed analysis gives the following results:—

In 100 parts of the Dried Guano, (26.18 of moisture having been separated.)

Organic Matter	27.07
(In great part nitrogenous, and capable of evolving ammonia.)	
Silica	5.66
Phosphates of Lime and Magnesia	51.99
Other Earthy Salts	3.22
Soluble Salts	12.06
	100.00

CONCLUSIONS.—As a conclusion, from the examination I may safely recommend this Guano as an excellent manure, being of opinion that its character and constitution alike tend to render it valuable.

There is a minimum of silica. The phosphates are present in large quantity. The salts, earthy and soluble, are just such as are most valuable in soils; and the large amount of animal and other organic matter will enable it to bear favorable comparison with the other Guanos in the market.

WM. SYDNEY GIBBONS,
Analytical Chemist, &c.

R. H. BULLOCK, AGENT, GEELONG.

N.B.—Buyers can be supplied from the Bulk Heap, and see it bagged.

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VIC

